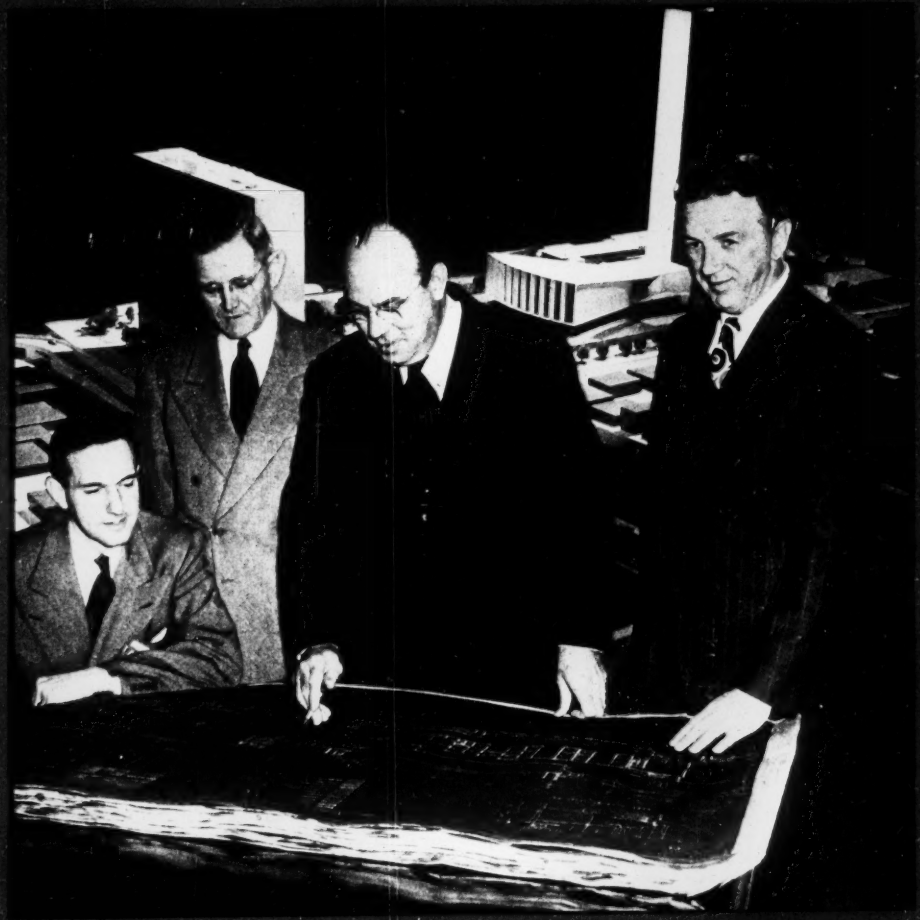
ENGINEERING NEWS-RECORD

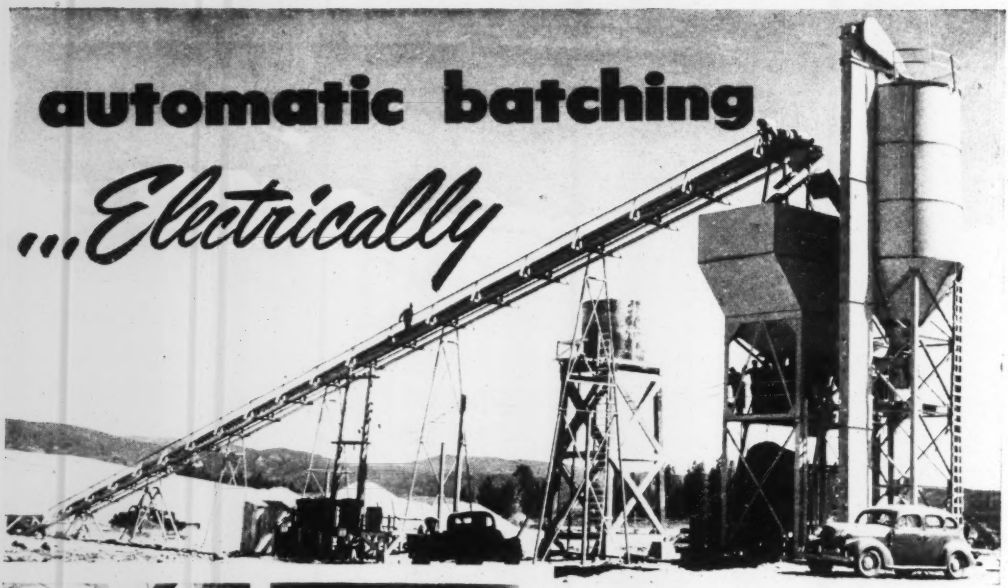
APRIL 21, 1949

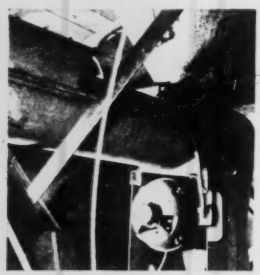


Tower-Durkin-Crandell Steinway—how town builds UN headquarters

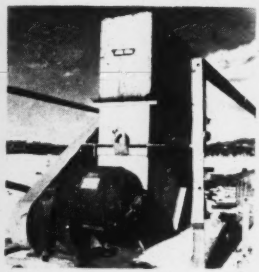
A McGRAW-HILL PUBLICATION

automatic batching ...Electrically

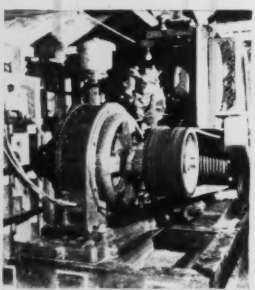




Cement from silo is fed to weigh batcher by worm screw, driven by G-E Tri-Clad motor.



Cement elevator drive is powered by G-E Tri-Clad motor.



G-E induction motor driving compressor which supplies air to batch plant and other equipment.

Bert Sandberg, Engineer for Granby Constructors, operates the G-E combination starter which controls the compressor motor.

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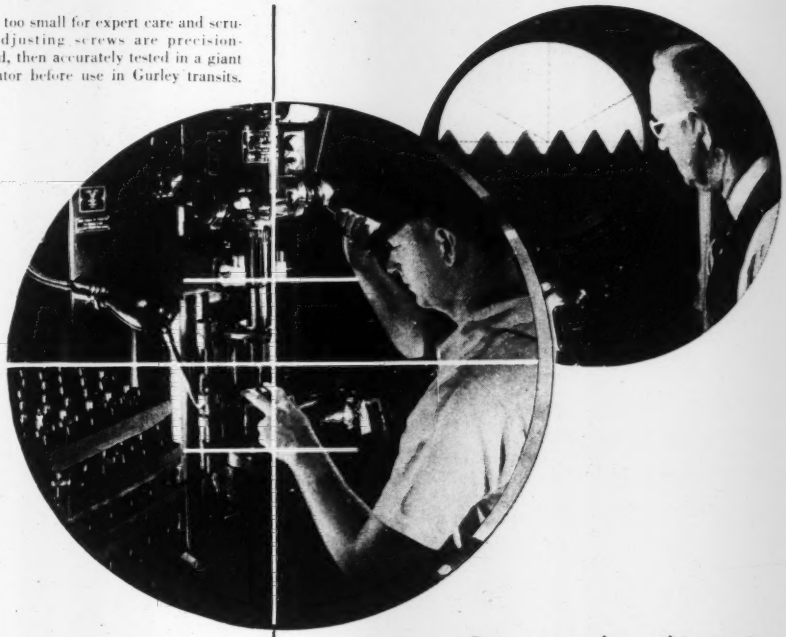
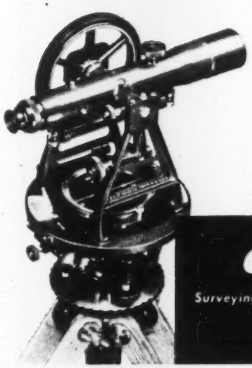


While you're looking through a transit, take a look at what's behind it



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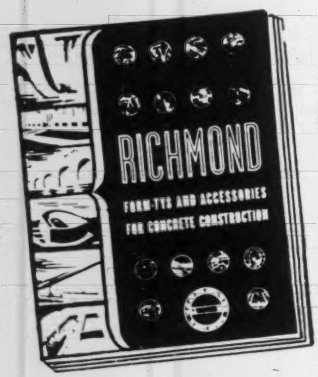

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ENGINEERING NEWS-RECORD

VOLUME 142 APRIL 21, 1949 NO. 16

WALDO G. BOWMAN
Editor

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THE COVER PICTURE

Austin, Gromyko, Evatt, and Lie can take a tip from Turner, Durkin, Crandall and Slattery when it comes to teamwork. Cooperation of the type going into construction of the United Nations structures in New York City may be hard to find once the buildings are occupied.

Four of the top constructors in the East—George A. Fuller Co., Slattery Contracting Co., Inc., Turner Construction Company and Walsh Construction Company—form the construction team that will put up the offices for UN (ENR Dec. 23, p. 48).

Looking over the plans at one of their weekly meetings, called for the purpose of expediting work on the 39-story secretariat building, are the executives of the newly-formed Fuller-Turner-Walsh-Slattery, Inc. In the usual order are: H. C. Turner, Jr., treasurer of the combine, president of the company bearing his name; William A. Durkin, vice-president, who started as a waterboy and became president of Walsh Construction Company; Lou Crandall, president, who joined George A. Fuller in 1917 and after heading branch offices in Miami and Chicago assumed the presidency of the company in 1928; James Slattery, treasurer, who founded his own firm and has been president and sole owner for 20 years.

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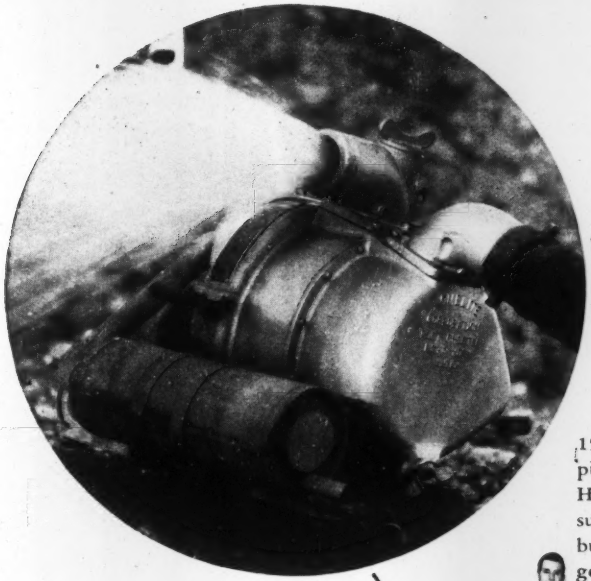

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THE CONSTRUCTION WEEK

END OF TUNNELLING MENACE?—A new chemical that will neutralize carbon monoxide in tunnels has been reported to the American Chemical Society. Developed by the Canadian Department of National Defense, the chemical contains silver permanganate as an active agent; can be used in gas mask canisters or ventilating systems, does not have to be protected from moisture.

HIGHWAY WORK KEEPS UP—In line with other predictions of an expanding construction economy for 1949, the American Road Builders' Association now predicts total highway expenditures of $1.233 billion for the year. The figure—which does not include maintenance—is about $400 million over 1948, ARBA said. Maintenance by itself will account for $433 million additional dollars.

FIGHT ON EXCISE—Although there doesn't seem to be much chance for success, there's a renewed campaign going in Washington for repeal of wartime excise taxes on freight transportation, telephone and cable tolls, and electrical equipment. Businessmen have some powerful logic behind their case for repeal: remove excise taxes and you automatically cut some prices as much as 20 percent. Sales have been lagging in some of the taxed lines. But political logic is against any cuts that would lessen government revenues at this time.

MORE ALUMINUM—Armed with new powers from its legislature, the British Columbia Government is now prepared to enter blanket agreements with private industry for use of power sites and other lands to produce aluminum. No loans or subsidies are permitted. Three companies—Aluminum Company of Canada, Reynolds Metals Co., and Aluminum Co. of America—have discussed proposals for refineries to cost up to $300 million.

UNEMPLOYMENT STATISTICS—The official releases on the current employment situation are mildly optimistic, but when you talk to the experts who compile the figures, you get a picture not quite so rosy. Total employment is still above last year's level, but the relative stability in total employed is offset by the recent sharp rise in unemployment. Most of the current rise in employment is where it would normally come—agriculture and construction—and the manufacturing industries are dropping contraseasonally. Labor statisticians think that from now on "normal" unemployment will be about 3,000,000, because the U. S. economy for the first time since the war began has failed to absorb the workers being added to the work force through normal population growth.

CANADIAN PIPELINES — Canadian fuel companies are planning oil and gas line construction totaling over $250 million in the coming year, according to the Ministry of Transport. Biggest line will be a 300-mile pipe from Montreal to Toronto, to be built by British-American, McColl-Frontenac and Shell Oil companies. Natural gas lines will be built between Calgary and Winnipeg; Alberta and Seattle.

STEEL PRICING—Meeting stiff buyer resistance for the first time in years, some steel producers are reported to be quietly absorbing freight charges to meet competitors in distant markets. Others are said to be ready for quick moves toward the same basis, as soon as Congress decides what to do with a moratorium bill that would assure the steelmen of exemption from anti-trust restrictions. Industry observers believe the willingness to get away from f.o.b. mill pricing indicates that steel makers feel normal market conditions are close at hand.

WHO CONTROLS STREAMS?—The Interior department apparently is planning to fight to the bitter end in its drive to control all streams on which the federal government has built or proposes to build hydro projects. The department has asked the Federal Power Commission for the status of a formal intervenor in a FPC case concerning the development of the Roanoke River, Va., by a private utility—the Virginia Electric and Power Co. The formal status would permit Interior to appeal any decision by FPC on the Roanoke project should the matter be brought into any court. Thus, private development of such streams could be effectively tied up for years.

PRIVATE HOUSING BILL DUE—No private housing bill has been reported yet by the Senate Banking Committee, but one is due soon. FHA insurance of rental housing was extended 90 days by a rider on the rent control bill President Truman signed March 30—the time interval to allow Congress to get private housing action under way. Meanwhile, the public housing measure reported to the Senate by its Banking Committee (ENR March 10, p. 13) still awaits consideration, and hearings on a similar measure have begun in the House.

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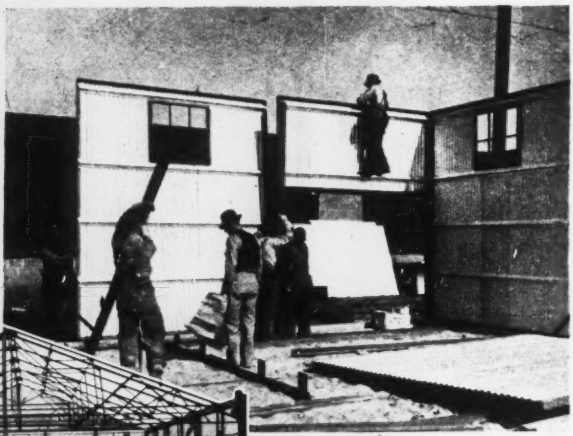

1. Erecting 10' x 12' panels. Note that corrugated galvanized steel sheeting has been shop riveted to structural framework and that steel sash are factory installed.

2. Progress of erection after four hours work.

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Guard Those Water Supplies!

AVAILABLE EVIDENCE points to a polluted water source as the cause of the recent gastro-intestinal outbreak at Loudonville, Ohio. The epidemic broke out following mechanical failure of the single hypochlorinator on the well-supply discharge main. Extent of the attack may be gaged from reports that up to 40 percent of the population was affected by nausea, vomiting and diarrhea. This experience emphasizes once again that too many water supplies are guarded only by a thin shield of facilities plus a token adherence to practice-proven sanitary principles. It also effectively underscores a long-recognized fundamental: Dual equipment—pumps as well as disinfection apparatus—is prerequisite to safe, continuous operation of public water supplies.

Civil Work and the Army Engineers

THE QUESTION of more effective cooperation between the Army Engineers and the Bureau of Reclamation on river development, which was raised in our editorial March 24 relating to the Hoover government reorganization report, has brought a number of replies. One of these, from a private civilian engineer, includes a definite enough proposal to justify quoting. The plan takes its cue from the fact that in military service a company of one regiment may be "attached" to another regiment for performance of a task, while remaining under its own regimental headquarters for administration.

"Now let us suppose" says the author, "that in time of peace the Secretary of the Interior (if that should be the new setup) has decided that a certain dam should be built, and has gotten the funds from Congress. Permit him, and under a variety of stated circumstances make it obligatory upon him, to request the Chief of Engineers to detail an Engineer task force to contract for and supervise the project, all under the regulations of Interior. The C. O. of this task force would continue to report to the Chief of Engineers for administration, but would report to the Secretary of the Interior for performance of his task.

"This takes away from the Corps the broad field of the study of river control and development, which would be a terrible wrench; yet, in fact, such studies have a very tenuous connection with military skill. This plan leaves, and should be so devised as to increase, the number of Corpsmen assigned to the actual control of construction forces, which is where the military benefit of this peacetime function lies.

"That this is all perfectly simple, and that the relations between the Engineer officer and his superior in Interior would always be sweetness and light, I would not claim. I am, however, inclined to believe that it faces the situation with some logic. The Engineers certainly have benefited in military (and emergency) effectiveness by their peacetime responsibility for much heavy construction."

Such a suggestion may or may not offer a solution. Nevertheless, it commands attention since it avoids the extreme and opposed viewpoints that bedevil the problem—on the one hand that "the civil works setup of the Army Engineers shall not be touched" and on the other that "all civil works should be taken away from the Army Engineers."

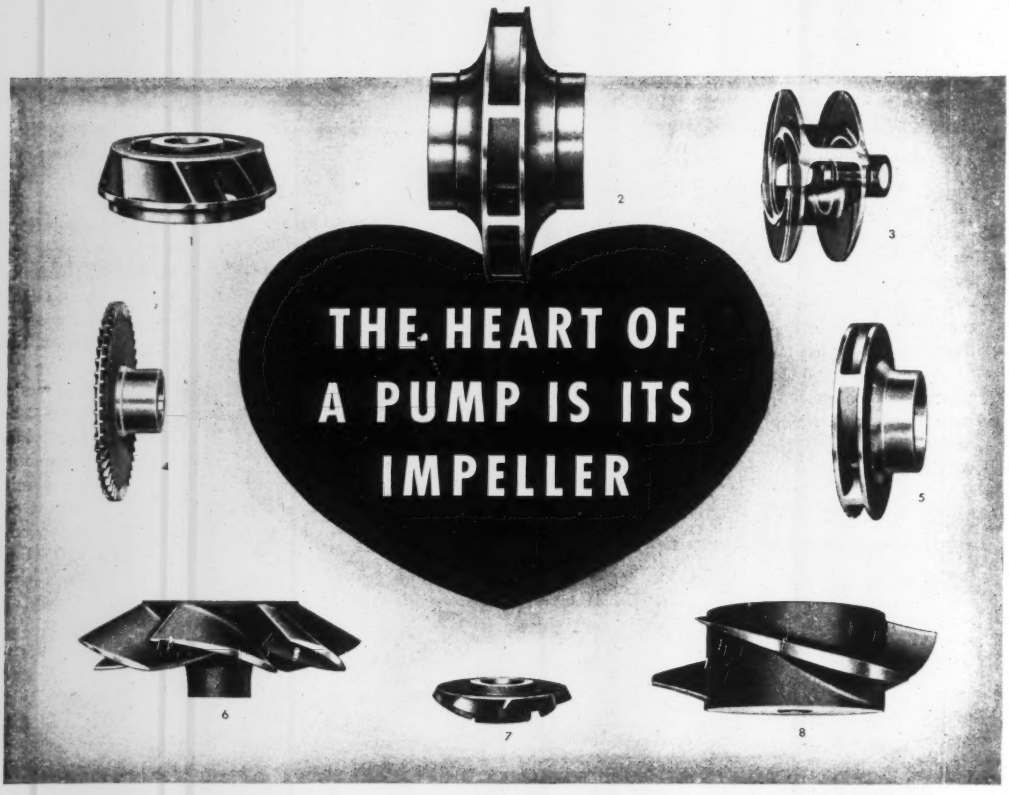
The important thing is that the suggestion is made. As we said in the previous editorial, something must be done to rationalize the dual handling of river development by the Corps of Engineers and the Bureau of Reclamation. And as was said further, "Congress should not file and forget the Hoover Commission report on public works. It should improve it and make it workable." The suggestion of Army Engineer construction task forces is typical of the kind of proposals that Congress should subject to its thinking and debate.

Another Look at Quoddy

THOSE who thought that the Passamaquoddy tidal power scheme was finally disposed of back in the Thirties, when Congress refused to appropriate more money for the fruitless effort to make the scheme work, did not count on the persistence of the people in that part of Maine. They have persuaded President Truman to seek a new study. The important difference between this study and the project started under the authority of the late President Roosevelt is that Canada is expected to participate in the proposed study.

Canadian participation makes it possible to include the great area of Passamaquoddy Bay. That changes the complexion of the scheme somewhat, but probably not enough to make it practical. The late Dexter P. Cooper, who so effectively sold the idea to his neighbor, Franklin D. Roosevelt, used the bay in his original planning, but the President was unable to secure Canadian cooperation. Cooper thereupon evolved a modified scheme, using a bay lying wholly in Maine. This, President Roosevelt authorized, and some of the best brains of the Corps of Engineers tried to evolve a practical arrangement, but all to no avail. Two big pools were needed and, without Passamaquoddy Bay, there was only one.

Even with Passamaquoddy Bay included, Cooper never produced evidence that power could be produced at costs comparable to those in a steam station with similar output. In view of higher construction costs of today, prospects for the tidal power scheme are not much brighter than they were 15 years ago.



Peerless Pumps utilize many different impeller designs to meet various fluid conditions

What makes a pump "tick?" Its heart is an impeller!

Pictured above are eight Peerless impeller designs for varying fluid conditions. No. 1 forces water upward from deep wells. No. 2 is a double suction design for high capacity horizontal pumps. No. 3 pumps solids in suspension. No. 4 handles all liquids in small capacities, at high heads. No. 5 is of single suction design for process services. No. 6 combines both radial and axial flow. No. 7 is a semi-open impeller for small diameter deep wells. No. 8 is an impeller that "propels" large liquid volumes.

The point is—capacities, lifts, heads, temperatures, chemical analysis, clarity, shaft speeds are seldom common to different pump services and installations. Because fluid conditions vary, Peerless pump designers are versatile and Peerless pumps utilize this versatility in different impellers for varying fluid conditions, successfully pumping most liquids in all industries.

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Peerless vertical turbine pumps are available for lifting water from deep wells or close-coupled for wet or dry pit installation and for drainage, drydock, canal diversion and flood control services.

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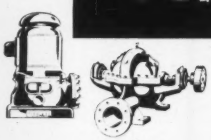


ENGINEERING NEWS-RECORD

APRIL 21, 1949 VOL. 142 NO. 16

Truman presents CVA bill as unified Northwest plan

Columbia Valley Administration would take over river development in 269,000-sq. mi. area—Agency could go to work immediately, with staff from USBR, Army and BPA

President Truman's long-awaited bill to establish a TVA-type valley authority in the Columbia River Basin (ENR Feb. 3, p. 47), finally reached Congress last week. But, despite the President's urging, Washington sources gave the CVA legislation little prospect of enactment this year.

The proposed CVA—it would be called Columbia Valley Administration to avoid use of the term "authority"—would take over river resource development on the Columbia and its tributaries. This would include most of Washington, Oregon, Idaho, western Montana, the Snake River Basin in northwestern Wyoming, and the upper reaches of the Owyhee River in northern Nevada—some 269,000 square miles in all. The predecessor Tennessee Valley Authority serves an area of approximately 40,000 square miles, largely in a single state.

"The unified consideration"

In a special message to Congress, the President gave credit to existing federal agencies which have been developing the Pacific Northwest. But, he added, their activities do not provide "the unified consideration" for development of all resources of the area that now is necessary. Federal interagency committees, in the Northwest and other great river basins, have "obvious limits, since none of the representatives of the several departments and agencies concerned is responsible for an over-all view of all the resources of an area," he said.

The Mitchell-Jackson bill was prepared by a White House team, headed by presidential assistant Charles Murphy and Assistant Secretary of Interior C. Girard Davidson. Should the bill be enacted, Davidson is an odds-on favorite to head the three-man CVA board of directors. The directors would serve, at first, for staggered terms of two, four and six years, then for six years each. They would be appointed by the President, subject to Senate confirmation, and receive $17,500 per year.

CVA would go into business almost immediately after enactment of the bill by absorbing the plans, programs and staff of the Bureau of Reclamation, Bonneville Power Administration and the Army Engineers in the region. Only channel and harbor improvement in tidal water would be left with the Army.

Chief functions of the CVA are described in the bill as planning, construction and operation of navigation, flood control, reclamation and conservation projects, development of recreational resources, promotion of sanitation and pollution control, and protection of fish and wildlife.

CVA would carry out the bulk of its major construction under private contracts "so far as practicable." The Mitchell-Jackson bill provides competitive bidding on contracts except for emergency work, minor supplies and services needed for going jobs under contract, and purchases not exceeding $1,000. In addition, CVA could use its own crews if it received no "reasonable" bids.

The agency's operations would be financed by direct appropriations and from a special fund set up by the Treasury Department. Revenues of CVA would be paid into the latter fund, after subtraction of working capital.

TACOMA BRIDGE SADDLE DROPS

Among the freak results of the recent earthquake in the Pacific Northwest (see p. 11 of this issue), was one that may hold up construction of the new Tacoma Narrows Bridge.

A 23-ton saddle, made to hold a suspension cable atop one of the towers, was jarred loose by the quake and fell into the water, sinking a work barge.

Divers will attempt to salvage the casting, but if they are unsuccessful, a new one must be ordered from eastern steel mills.

Interior seeks greater stream control

Washington observers last week saw signs of a finish fight over the Interior department's desire to control hydroelectric development of certain streams in Interior's action in a current hearing.

The department asked the Federal Power Commission to grant it the formal status of intervenor, in an FPC hearing on plans of the Virginia Power & Electric Co. for construction of a hydro plant on the Roanoke River, Virginia.

Granting of such status would make it possible for Interior to appeal any decision in the Roanoke River case—might even tie up development for a number of years in the courts. Observers saw the move as part of Interior's drive for control of all streams on which the federal government has built, or plans to build, any hydroelectric development.

FPC meanwhile sought to bar formal intervention by the Interior Department. It was pointed out that Interior previously has intervened in license application cases informally, enjoying full privileges to protest such applications. This status, which hitherto satisfied the department, should be sufficient in the case in point, FPC's staff argued.

VEPCO also protested Interior's petition for formal intervention. The company asserted the department's move inferred that FPC was incapable of protecting the public interest in hydro license cases. Never before, the company protested, had it been necessary for any federal agency other than FPC to safeguard U. S. interests.

Conceding that the Flood Control Act of 1944 gave Interior authority to market energy from any federal hydro plants built on the Roanoke, the company argued the department should concern itself only with selling such power, not with construction of projects by private or federal agencies.

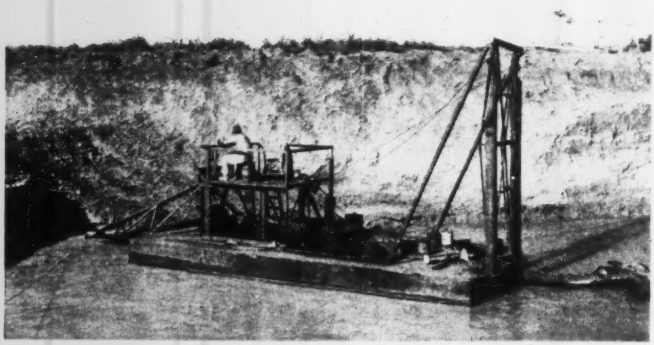
NEWS BRIEFS

Public Construction – Bureau of Reclamation has awarded a $6,136,234 contract to Morrison-Knudsen Co., Inc., of Boise, Idaho, to build 17 miles of the west canal on the Columbia Basin project in eastern WASHINGTON. . . Georgia State Ports Authority plans to start construction soon on the first part of a $9,959,000 development program for the SAVANNAH quartermaster depot—transit sheds, dock space, new berths, turning basin, and a rail yard. . . Construction of $4,500,000 IOWA state office building in DES MOINES has started. The general construction contract was let to Drake & Piper Inc., St. Paul, Minn., and Kucharo Construction Co., Des Moines. . . INDIANA has appropriated $11,830,000 for construction at state universities and colleges, the Northern Indiana Hospital, and the Soldiers' and Sailors' Home; and $13,836,800 for rehabilitation of various state departments and buildings. . . ALBERTA will spend $5,194,000 this year for new provincial buildings and additions.

Industrial Construction—PHILADELPHIA, PA., companies have announced construction expenditures planned as follows: Philadelphia Electric Co., $1,418,000, at its Richmond Station; C. Schmidt & Son, Inc., brewery, $3,500,000. . . Kaiser Fleetwings, Inc., BRISTOL, PA., have a $4,000,000 expansion program. . . Delaware Power and Light Co. will build a $26,000,000 power station at Edgemoor, near WILMINGTON, DEL. . . Duquesne Light Co. will soon start construction on a $28,000,000 power station at Elrama near CLAIRTON, PA. . . Imperial Oil plans $92,500,000 worth of construction in WESTERN CANADA. . . Additional facilities to cost $1,800,000 will be built by the Anaconda Copper Mining Co. at GREAT FALLS, MONT.

Housing—The city planning commission of SYRACUSE, N. Y. has approved the proposed contract between the Syracuse Housing Authority and the state regarding construction of a $2,413,000 public housing project at suburban EASTWOOD. . . With ONTARIO government assistance, 29,976 housing units are to be started this year in that province. . . A 62-acre tract in EAST HEMPSTEAD, N. Y., has been sold to a syndicate headed by Harry Liebowitz of New York for improvement with 300 medium price homes, and a shopping center. . . The Beach Co. plans to build 1,000 houses on the Isle of Palms near CHARLESTON, S. C. in the next 5 years, to cost $10,000,000. . . Construction of 408 apartments units costing $2,116,226 is underway on Damascus Road southwest of Daniel Field at AUGUSTA, GA., according to Thomas M. Blanchard of Blanchard and Calhoun, developers. . . Ground has been broken for 400 economy homes by Kessler Homes, Inc., at INDIANAPOLIS, IND. . . The Darlington Corp. of Georgia plans a 612-unit, 14-floor, $5,250,000 apartment building in ATLANTA.

Railroads – Pennsylvania Railroad will spend more than $8,800,000 in removal of equipment restrictions in five tunnels on the Panhandle Division, in a 45-mile stretch of main line from STEUBENVILLE to DENNISON, OHIO. . . Plans for a $2,000,00 relocation and expansion of the Nickel Plate Railroad's terminal and yard facilities in FORT WAYNE, IND., have been announced, work to start about May 1. The new facilities will include a 130 x 90-ft. engine house, and a 110-ft. turntable. . . The United States District Engineer, Kansas City, Mo., has under advisement the low bid of $2,966,000 received from the Morrison Knudsen Co., for the relocation of the Chicago, Burlington and Quincy Railroad, Oxford branch, in HARLAN and FRANKLIN counties, NEBRASKA, in connection with the Harlan County Dam project.



HOMEMADE HYDRAULIC DREDGE—Contractors Affoiter and Garnett of Rio Hondo, Tex., have devised this pint-sized welded steel floating dredge to throw out 1,800 gpm., using a diesel engine and an 8-in. centrifugal pump. The GM diesel used also drives a rotary cutter to loosen hard deposits.

House group refuses fund for 'Quoddy power study

The House Appropriations Committee turned thumbs down on efforts to revive the Passamaquoddy Tidal Power Project last week (ENR April 7, p. 17). But the Senate may keep the project alive.

A request for $30,000, as the U. S. share of costs of a preliminary re-examination of 'Quoddy plans, received rough handling in the House committee. The funds were requested for the International Joint Commission in budget estimates for the Second Deficiency Appropriation Bill. The committee refused to allow the item, and it was sustained by the House when it passed the deficiency measure April 8.

The IJC allotment was backed by President Truman. It would have matched a similar fund to be provided by Canada for a joint investigation of an international development of the Passamaquoddy project. This survey would have established the estimated cost of a more thorough-going investigation, with recommendations as to the economic feasibility.

Proponents of the new 'Quoddy project, including Maine's entire Congressional delegation, pointed out that the proposed development would be considerably larger than that abandoned by the Army Engineers in the mid-30's. They hoped to persuade the Senate to restore the $30,000 item when it acts on the deficiency bill.

IJC already has appointed four engineers, two Americans and two Canadians, to make the preliminary survey. But unless Congress provides funds for the U. S. share of the expenses, the study cannot be made. Canada reportedly is ready to put up its share of the investigation costs.

Engineered structures resist shocks as earthquake rocks Pacific Northwest

Buildings sway, parapets fall as near-top intensity tremors shake Washington, Oregon cities—Damage at minimum to major structures

Homer Hadley and Ray Bloomberg
Consulting Engineer Staff Correspondent

Seattle—Just before noon on April 13 Seattle and a 150,000-sq. mi. area of Western Washington experienced the most destructive earthquake in its history. The 'quake was rated as of intensity approaching 7 on the Mercali scale at Seattle, approaching 8 (major severity) at Olympia and Tacoma. The epicenter was traced to a point about 50 miles southwest of Seattle.

Greatest damage was centered in the Puget Sound cities of Seattle, Tacoma and Olympia, but shocks were severe throughout western Washington from Longview on the lower Columbia River and as far north as British Columbia. Oregon towns below Eugene—125 miles south of the Columbia River, and as far eastward as Lagrande felt the tremors.

The 'quake verged on major severity without attaining it, and it is astonishing that more persons were not killed in the cities as parapets of old buildings smashed to the streets and bricks and masonry rained down.

The damage was characteristic earthquake type—and it appears that no major engineering structure was badly damaged, despite earlier reports of "concrete buildings" that shattered under the impacts.

Brick parapets and sometimes portions of brick walls of old buildings were thrown into the streets; water tanks on roofs shifted and burst, deluging roofs and building interiors; windows broke.

Movements were noted around the margins of filler-wall panels in multi-story buildings, cracking interior plaster and exterior stucco. Movement also showed in some buildings in joints in exterior masonry veneers. In the filled-in tide-flat area of Seattle and along the waterfront there were ground settlements in various places.

Probably the most serious damage to any building in Seattle befell the Spokane Street cold-storage plant of the Port of Seattle—in the tide-flat area. There a concrete tower supporting a water tank on the roof failed; the tank fell through the roof and ruined elevator machinery, dropping one car several stories.

In a number of multi-storied Seattle buildings, slight movements or rocking—not displacement—were noted on construction joints at the tops of columns or floors.

Little highway damage

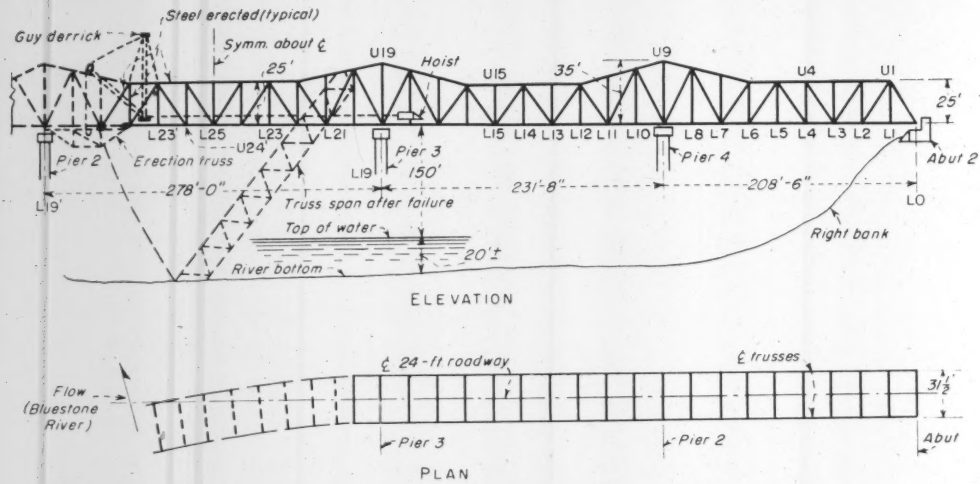
Some state buildings at Olympia were reported damaged, but the State Highway Department reported no damage to its bridges and little to highways in general.

The most serious bridge damage appeared to be in Seattle, where the Spokane Street double-leaf bascule bridges over the West Waterway had their leaves jam—apparently because the pile-supported piers moved slightly inward toward the channel.

Cracking did occur in a number of concrete bridges where the old type of sliding-plate and sliding-pin expansion joints were used.

Contrary to early newspaper and radio reports, there were apparently no breaks in the numerous water mains in the tide-flat areas of Seattle. Actually, the shocks loosened pipe-joints at eleven points, causing leaks that were speedily repaired. Normal water service was fully restored within 4½ hours after the 'quake occurred.

RUBBLE SHOWERS STREETS as Northwest's worst 'quake hit Seattle.



SITUATION SKETCH of Bluestone River bridge at time the center span failed during erection.

Probe cause of W. Va. bridge failure

By J. R. Carr

Hinton, W. Va.—Nobody knows or will hazard a guess as to why the Bluestone River bridge failed during erection (ENR, April 7, p. 15), but here's what happened:

Failure occurred when ten panels of the 278-ft. center span of the five span bridge had been cantilevered 231 ft. 8 in. from pier 3 toward pier 2. The riverward end of the extension dropped into the stream leaving the shoreward end hanging precariously, supported by twisted truss members in the first and second panels adjacent to pier 3.

When the sudden failure occurred (five steel erectors were killed and four others injured) the downstream top chord snapped in two at the second panel point from pier 3. The upstream top chord bent, but did not break. This caused the end of the cantilever to drift about 15 ft. upstream as it fell. Workmen reported they heard only a single, sharp popping sound, but it could not be determined if this occurred before or after the actual failure.

The failure came despite attempts to take care of erection stresses by increasing the section of certain main truss members. For example, the ruptured top chord had been increased from a design section of two 13-in. channels at 31.8 lb., and one 22 by ½-in. cover plate, to two 13 in. ship channels at 50 lb. and one 22 by ½-in. cover plate.

At the time of the accident, there were no unusual superimposed loads on the cantilevered trusses, and there was no appreciable wind reported. A conventional guy derrick, weighing approximately seven tons and supported on the roadway stringers at the center of the ninth panel from pier 3 was placing a lightweight three-panel steel erection truss (weighing about five tons) to close the gap between pier 2 and the end of the cantilevered portion.

Erection truss in motion

The derrick had picked up the erection truss and was booming out when the accident occurred. The truss was to be suspended beneath the bottom chord, with one end supported on pier 2 and the other pinned to the last panel point of the main truss. It would have transmitted part of the load of the last three panels, to reduce the cantilever erection stresses.

The second erection truss—for the upstream side—was not on the span at the time of failure.

Located two miles upstream from Bluestone Dam, near this village, Bluestone Bridge is to be a 1,158-ft. riveted five-span cantilever highway bridge as shown in the accompanying sketch. All panel lengths are 23 ft. 2 in. Spans 2 and 4 are anchor spans for spans 1, 3 and 5. They are continuous over, and extend 3 panels beyond their supporting piers to form cantilever arms for supporting a 6-panel suspended span at the ends of spans 1 and 5 and in the center of span 3.

Span 5 was erected first, on timber and steel bents. It served as an anchor span for span 4 which was erected by cantilevering out from pier 4 to pier 3. Span 4, in turn, was the anchor span for span 3 during its erection. Steel was delivered to the guy derrick by a push car whose track was carried by the two middle roadway stringers; the two outside lines of stringers were not to be erected until it had landed on pier 2.

These was only one hydraulic erection jack in span 3. Located in the fourth top chord panel of the downstream truss, its only purpose was to level the fourth floorbeam when steel erection had reached that point. Two shortened, top chord erection members in span 3 were used to insure keeping the cantilevered trusses high enough to land on pier 2. One of these contained the hydraulic jack. It suffered no visible damage when the span failed.

Removal problem

No decision has been reached regarding removal of the wrecked span. Obviously, the trusses cannot be cut free at their upper ends and permitted to fall against pier 3. Several truss members appear to be undamaged and salvageable, but final decision may be to remove it all as scrap. Bluestone River bridge is being built for the West Virginia State Road Commission, to carry state route 20 over water impounded by Bluestone Dam. The Virginia Bridge Co., holds the contract for erection of the superstructure.

Wage-hour change to settle "overtime"

By Joseph Gambatese

Chances of Congress passing H. R. 858—giving the construction and stevedoring industry relief from statutory "overtime"—are slim. The bill passed the House 230 to 7 on Feb. 21 and has since been snarled in the Senate labor subcommittee headed by Sen. Lister Hill (D., Ala.).

Hearings were concluded by Sen. Hill's group on March 14, but action on the bill has been delayed because of the request of the stevedoring industry that its application be made retroactive.

Some of the Senators have doubts as to the legality of retroactivity. In addition, Sen. Wayne L. Morse (R., Ore.), one of the committee members, questions the fairness of wiping out claims which have accrued legally under the Wage-Hour Law. He is a former arbitrator for the longshore industry on the West Coast.

"It would be a serious thing if Congress should attempt to reverse the Supreme Court in a matter affecting property rights—the workman's ability to collect money that the court says is due him," Morse said.

Furthermore, Sen. Elbert D. Thomas (D., Utah), chairman of the Senate Labor Committee, while in favor of correcting the legal situation regarding overtime on overtime, does not consider the accrued payments as a "windfall."

The Hill subcommittee's staff is preparing a memorandum which goes into the legal issues on both sides of the retroactivity question.

AGC asks passage

In a statement filed with the Hill group last month, the associated General Contractors simply urged passage of H. R. 858. No request was made for retroactive effect.

The reason is that, unlike the longshore and stevedore industry, the construction industry is not faced with costly suits for back overtime pay. This industry is concerned chiefly with time and a half payments for holiday and week-end work and work beyond eight hours a day. It relied on administrative rulings of the wage-hour administrator that these were "real" overtime payments which can be offset against statutory overtime. Therefore, under the Portal-to-Portal Act of 1947 they are protected against suits up to the Supreme Court's upsetting Bay Ridge decision of last June because they acted "in good faith" on the administrator's rulings.

This is not true of the longshore industry, which had been advised that the time-and-a-half payments for night and week-end work was not real overtime, but actually penalty pay for working at undesirable hours.

A provision similar to H. R. 858—applicable to all industry—is contained in the omnibus amendments to the Wage-Hour Law. This bill, H. R. 3190, is ready for consideration on the House floor as soon as the Rules Committee gives it the green light.

In the Senate, hearings are underway on a similar bill, S. 653. Thus, the overall wage-hour hearings have caught up with the target bill—overtime on overtime. Furthermore, the urgency for special quick relief for the construction and longshore industry seems to have subsided. So it's likely that Congress will let H. R. 858 die and tackle the problem as part of the overall revision of the Wage-Hour Law. This lessens the chances of retroactive application.

N. Y. skyscrapers to have new type air-conditioning

A newly developed air-conditioning system will be installed in three skyscrapers now under construction in New York City. The contracts totaling about $3,000,000, were awarded to the Carrier Corp., Cloud Wampler, president of the company, announced last week.

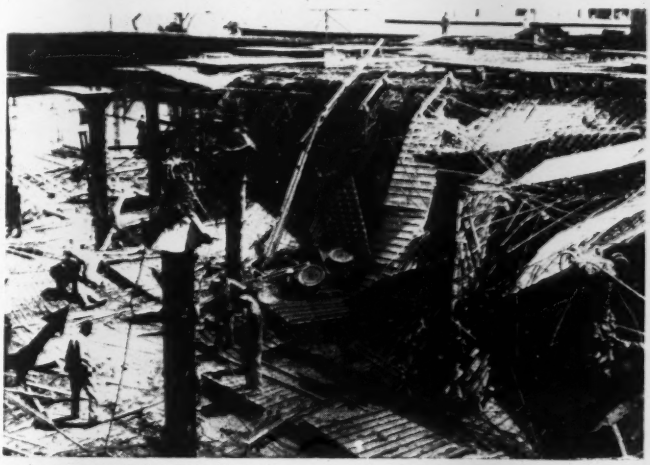
Devised in 1939 by Willis H. Carrier and his associates and improved during the war, the installation delivers conditioned air at high velocity to the various rooms through small conduits running from a few central stations. Conduits are only from 3 to 10 in. in diameter as compared with conventional bulky ductwork, which may be several feet in section, Mr. Wampler said.

Paralleling these conduits will be smaller pipes carrying chilled water in summer and hot water in winter to coils inside units built into the walls under every window. Air in the offices will be drawn over these coils and mixed with the filtered, dehumidified air from the conduits.

The office buildings covered by the contracts are the 39-story Secretariat Building for the United Nations, the 25-story Mutual Life Insurance Building and the 36-story 100 Park Ave. Syska and Hennessy are the consulting mechanical engineers for the first structure, Jaros, Baum and Bolles for the last two.

Steel erection begins on UN secretariat

Steel erection started last week on the United Nations secretariat building. The 39-story skyscraper is being constructed in New York City as a joint venture by George A. Fuller, Turner Construction Co., Walsh Construction Co., and Slattery Contracting Co. (See this week's cover.)



CONSTRUCTION COLLAPSE—One man died and eleven were injured when this accident occurred last week in Santa Monica, Calif. The 50-cu. yd. cover slab of a 5,000,000-gal. underground reservoir had just been poured when underpinning gave way and forms collapsed. Cranes lifted debris, freeing trapped workers.

Waste standards for Cincinnati pool set higher than compact requirements

Ohio River Valley Sanitation Commission approves highest standards for area that supplies raw water to river cities—Officers elected.

The Ohio River Valley Water Sanitation Commission recently set up standards for the Cincinnati pool that are believed to be the most stringent now in existence in the United States.

The commission adopted without a dissenting vote—and with the apparent complete approval of the communities and industrial plants affected—standards calling for the complete removal of settleable solids, and a 65 percent reduction of biochemical oxygen demand for orgamic wastes.

The Cincinnati Pool is a 22-mi. stretch of the Ohio River between Navigation Dams 36 and 37. It receives wastes from Cincinnati and several cities in northern Kentucky—and at the same time serves as a raw-water supply for these communities.

The higher effluent standards were detailed at a public hearing on Feb. 16 (ENR March 3, p. 30). Requirements are considerably above the minimum of 45 percent removal of total suspended solids (about 35 percent BOD reduction) set forth in the eight-state compact that created the commission. The compact provides that higher standards may be set forth whenever such action is found necessary.

Water quality objective

For treatment-plant design, a water-quality objective of 4.0 ppm. dissolved oxygen at the bottom of the oxygen-sag curve is established for the Ohio River below Cincinnati. This figure is the daily minimum as measured by the average of three samples on a range across the stream, one being taken at midstream and the other two at quarter points. It is expected that the dissolved oxygen at one or two points on the range may be below the specified figure. But it is also anticipated that oxygen results on ranges above and below the bottom of the sag point will be higher than the specified 4.0 ppm.

The amount of 4.0 ppm. of dissolved oxygen was established by agreement as representing a reasonably clean condition for the river in which nuisances will definitely be absent and thus permit limited recreation. The figure is 1.0 ppm. lower than recommended for healthy fish life, but this is offset by the higher oxygen content to be available above and below the maximum oxygen point of the water.

The substantial reduction in organic matter contemplated will be accompanied by a like substantial reduction in bacterial content, thus greatly improving the stream for public water-supply use.

On the basis of flow data, estimates of increased load and the water-quality objective, it is estimated that a BOD reduction of over 40 percent will be required every two years. A reduction of over 50 percent will be required every three years and a 55 percent reduction every ten years. Perhaps once in twenty years a BOD reduction of 65 percent will not be adequate, but the 65 percent treatment is the limit that can be reasonably justified.

One important factor that weighed heavily in reaching conclusions was the beneficial effects of low-flow regulation achieved by flood-control reservoirs. Such reservoirs already built or projected for early construction in the Ohio Basin will make possible an increase in flow of 1,790 cfs. When it is recalled that, without these reservoirs, the minimum daily flow in the Ohio River dropped to 2,850 cfs. in the drought year of 1930, the importance of additional flow becomes apparent. It provides real and valuable benefits in terms of reduced needs for sewage-treatment facilities.

Chairman of the standards committee was B. A. Poole, technical secretary of the Indiana Stream Pollution Control Board. Other members were F. C. Dugan, director, Division of Sanitary Engineering, Kentucky Department of Health; F. H. Waring, chief engineer, Division of Sanitary Engineering, Ohio Department of Health; John W. Wiseman, Ohio River Division, U. S. Corps of Engineers; and M. LeBosquet, Jr., senior sanitary engineer, U. S. Public Health Service.

Remediable projects underway

Corrective measures for pollution control in the Cincinnati pool are already underway. Cincinnati proposes to ask for construction bids in July on one of two projected sewage-treatment plants. Plans have been prepared by Havens and Emerson, consulting engineers. To aid in financing the work, the city put into effect a sewer-rental ordinance last summer which thus far has produced a fund of about a million dollars.

On the Kentucky side of the river, Covington and Neighboring communities have joined together in forming a sanitation district. Comprehensive plans for joint sewage treatment facilities are now being developed by Vogt, Ivers and Seaman, consulting engineers.

Commission elects officers

New commission officers elected for the year beginning in July are: chairman, Joseph Quinn, engineer of The Hulman Co., Terre Haute, Ind.; vice-chairman, Henry Ward, director of conservation, Frankfurt, Ky.; and secretary, Fred Waring, state sanitary engineer, Ohio.

Polluted well water causes epidemic

Outbreak of disease occurs in Loudonville, O., as hypochlorinator breaks down

A recent widespread gastrointestinal outbreak at Loudonville, Ohio, followed by one day the breakdown of the water supply hypochlorinator.

The disease causes nausea, vomiting and diarrhea; local doctors estimated the number of cases treated between 500 and 1000, out of a total population of 2500.

The epidemic came to light when the local school superintendent notified county health authorities that a number of pupils were absent from school. On the following day, D. P. Griffin, district engineer of the Ohio Department of Health, was notified.

Writing in the April issue of the Ohio Sanitarian Griffin reports that he immediately ordered the unsterilized supply to be shut off, caused water in storage to be heavily chlorinated and supervised emergency repairs to the disinfecting equipment.

Bacterial analyses of water samples taken before resumption of chlorination showed B. coli in all samples tested.

Four drilled wells located within the corporate limits provide water for Loudonville. The wells are pumped with direct-suction, single-lift units discharging directly into the distribution system. A sanitary sewer about 50 years old passed within 5 ft. of well No. 4 to an outfall in the Black Fork River. Pressures of 60-80 psi. are maintained in the system by a 265,000 gal. reservoir on high ground southwest of the village. Average daily consumption is about 85 percent of the reservoir capacity.

Unsatisfactory bacterial quality of

the water continued at the pumping station on resumption of regular-rate chlorination. This was caused by the extremely short contact time prior to sampling, plus the high iron content of the water that increased chlorine demand above capacity of the hypochlorinator.

Samples tested

Bacterial analyses of water collected from well No. 4 showed gross pollution. The village immediately bought and installed a gas-type chlorinator of greater capacity. Meanwhile, two control points (just west of the pumping station and just east of it in the business section) were established to check bacterial quality of water close to the station at regular intervals. An application of 4 ppm. of chlorine was required to protect the supply at these points as well as maintain satisfactory residuals in outlying areas. Residual chlorine in the business district was about 2 ppm. with varying residuals of from 0.3 to 0.7 ppm. at the ends of the system.

Even with the high chlorine dosages, gas-formers were found in the water at the control points. This would indicate a high degree of pollution entering well No. 4, especially when a high river stage surcharged the sanitary sewer. Low production at other wells, unfortunately, required continuance of pumping at well No. 4.

Village authorities started work at once to relocate the sewer near well No. 4. This work has been completed.

It is now proposed to remove the abandoned sewer line immediately adjacent to well No. 4. This will be done to eliminate further contamination of the well.

Village officials realized the potential dangers to the existing supply, and detailed plans were prepared last year for installation of a lime-soda water purification plant. This plant should be placed under construction with award of contracts early this summer.

PERSPECTIVE . . .

The trailer re-appears

A problem that many municipal authorities thought had completely disappeared with the end of the war has apparently reappeared.

The house trailer, used as a permanent home by its owners, is again a source of worry to public officials, particularly in the sanitary field.

In the monthly bulletin of the Connecticut State Department of Health, David C. Wiggin, Jr., housing engineer for the Bureau of Sanitary Engineering, said that use of the trailers is increasing again in Connecticut, after a postwar decline.

According to Mr. Wiggin, during the war the state had a peak number of 875 trailers being used as homes. That figure dropped after the war, but at present there are over 900 trailers in 39 camps at 24 towns of the state.

Similar growth has been reported in the South and Far West.

Expanding of trailer camps has created serious local problems in the field of sanitation and zoning, and a financial problem in the fact that the municipalities must provide virtually all governmental services without a commensurate increase in property valuation and tax revenues.

Mr. Wiggin commented that the Connecticut state sanitary code provides local health officers with two specific regulations to control sanitation in trailer camps. One of these provides for annual registration of trailer camp proprietors with the health officer and requires that there be a safe water supply, adequate toilet facilities, proper sewage disposal and general sanitation in the camp. The second regulation governs the sanitation of coaches and includes supervision of such matters as toilets in the trailers, disposal of liquid wastes, garbage and refuge disposal on highways.

In addition, in order to meet the problem posed by the camps, several Connecticut towns have adopted a local ordinance at the suggestion of the state department of health. Under this ordinance the management of a proposed camp must first obtain approval from the local health department as well as permits from the zoning board, building inspector, plumbing inspector and similar agencies. Also, the trailer camp management must file annually with the town assessors a list of the trailers and motor vehicles parked and registered.

Well drilling prohibited in 48 sq. mi. of Arizona

Arizona has ruled a 480-sq. mi. section of the Eloy district, a critical groundwater area, and will prohibit the drilling of new irrigation wells.

Use of existing wells is not affected.

The formal ruling followed months of survey work by state and government engineers. Their report showed that the average drop in the static groundwater level around Eloy was 90 ft. between 1915 and 1949. Sixty feet of this occurred between 1942 and 1949.

The withdrawal has been at 10½ times the recharge, O. C. Williams, state land and water commissioner, reported.

And with the subsequent lowering of the water table, pumping rates skyrocketed. The average power requirement to pump one acre-ft. of water in the district increased from 334 kw. hours in 1941 to 493 in 1948.

The U. S. Geological Survey reported that throughout the state in 1947, 3,600 irrigation wells drew an estimated 2,561,500 acre-ft. of water from underground basins.

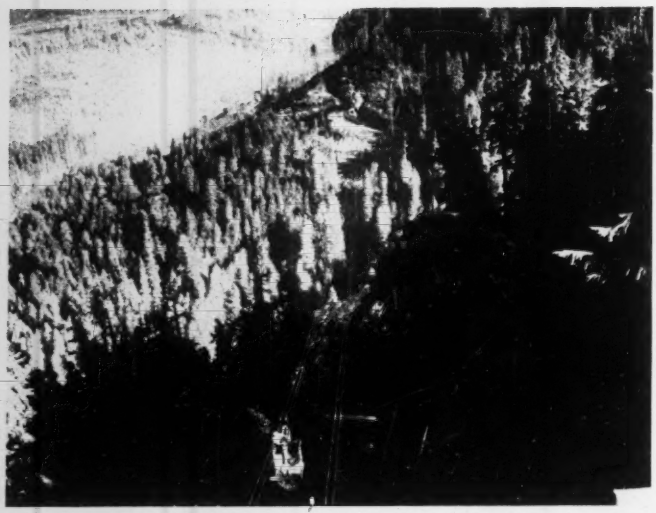
The 1947 pumpage contributed 68 percent of the total water used for irrigation in Arizona. More than half the 1947 pumpage was in Maricopa County where wells produced 1,446,500 acre-ft.

Gen. Pick approves plan for Youngstown water

A plan to permit the Mahoning Valley Sanitary District to take water from Berlin Reservoir to assure Youngstown, Ohio, of an adequate water supply for the next 50 years has been approved by Maj. Gen. Lewis A. Pick, chief of Army Engineers. Negotiations for a contract are in progress. The way was cleared for this move when General Pick approved a new plan of operation for Berlin Lake.

The proposed contract would give the district rights to take up to 34 mgd. Under the plan, the sanitary district will spend several million dollars for building a large-sized pipe line and pumping plant between Berlin and a run flowing into Meander Lake. The water would be pumped to the top of the divide between the two basins, then would be permitted to flow by gravity to Youngstown.

The water now comes from Meander Reservoir, a 10-billion-gal. reservoir built 20 years ago. The demand on the Meander now is approaching the maximum daily safe yield so the district needs a supplemental water supply.



IT'S A LONG WAY DOWN—Looking from the upper end of the 6,000 ft. tramway, the valley, with its Great Northern Railway line, looks more than a scant 24 minute bucket ride away.

Aerial tramway taps limestone source on rugged mountain top in Washington

A limestone quarry on an otherwise inaccessible 4,300-ft. peak in the Cascade Mountains of central Washington has been reached with a 6,000-ft. aerial tramway.

Rock from this new Malone Mountain source is believed sufficient to supply the Northwest Cement Co.'s Stevens Pass plant for 100 years. Travel time from mine to cement plant—a 3,450 ft. drop in elevation—is 21 minutes for the two 5-ton capacity tramway buckets.

Before the tramway could be constructed, its builder, the Washington Iron Works of Seattle, constructed a camp at an elevation about one-third the way up. Then a 3-mi. access road had to be cleared to the midpoint of the two-section tram at a 2,950-ft. elevation. Working in both directions from this midpoint, the builders next logged heavy timber off the right-of-way. All preliminary work was done over trails with pack horses, and later with four-wheel-drive trucks on access roads with grades up to 20 percent.

The difficulty of material-handling problems on the upper section of the tramway was due largely to problems of access. The upper section is a single span of 3,000 ft. with a difference in elevation of 1,100 ft. between its two ends.

Special rigging equipment was necessary for stringing the four 1¾-in. cables across this upper span. First a ¼ in. cable was carried to the top by pack horses; then it was strung back down over the cliffs by hand, run through a rigging block at the top and then wound on a 96-in. diameter hoist at the lower end. Successively larger cables were thus strung across the span (with a gasoline engine turning the 96-in. drum) until all four 1¾ in. cables had been strung.

All sand, gravel, cement and water that went into the construction of a 400-ton concrete anchor at the top was hauled there on a pioneer line. This anchorage for the tramway lines was set in solid rock.

Quarry equipment (including the complete crusher plant, bunkhouse and cookhouse material and accessories) was transported over the completed 3,000-ft. span. Largest single item weighed 13 tons.

At the top of the tramway a quarter mile long access road was blasted around the mountainside to the quarry face. All work had to be completed in five months, June through October, when the snow was off the ground.

The project will be placed in actual operation for the first time this summer. Frank Frink, Jr., was engineer in charge of tramway construction for the Washington Iron Works.

LOOK! NO HANDS—Oliver Craney, field erector on the tramway job, demonstrates his confidence in the finished product—as well as in his sense of balance.

Install 2-way radio for Chicago water system

Chicago has completed a 2-way radio installation to serve its water department.

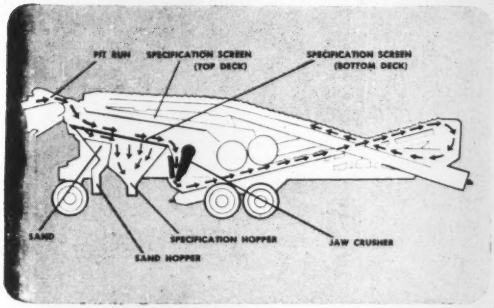
It provides two-way selective radio circuits between the Wilson Avenue crib, the Lakeview pumping station and the Chicago Avenue pumping station. It enables water department employees to obtain immediate information on all problems having to do with the pumping and distribution of water on the North Side area.

Formerly communication was by a phone circuit sometimes disrupted by cable breakage. Several times the cable was parted by anchors dragging from vessels passing between the crib and the shore.

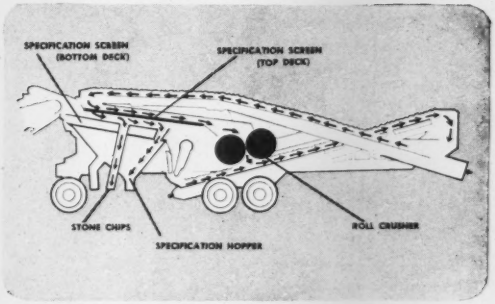
Several years ago a police radio unit was put in as an emergency communication equipment on police radio channels. This is now being replaced by a selecto-call system, pioneered and designed by Federal Telephone and Radio Corp., Clifton, N. J. This system enables any station to call the others. This equipment is so designed as to enable the city to add to or tie in with other existing radio equipment.

Under the selecto-call system any stoppage of water due to slush or frazil ice can be corrected inasmuch as the pumping station attendant will discover the lowering of the pumping station suction wells and can report it immediately to the cribs, where charges of dynamite can be set off in the clogged portions.

The entire system was engineered and designed by W. W. DeBerard, City Engineer, and Commissioner O. E. Hewitt.



1 **PIT RUN** is fed to bottom deck of 3½ deck screen, eliminating scalping screen. Sand is rejected by half deck. Throughs go to pay hopper, they never reach a crusher. Oversize goes to jaw crusher where "force-feed" increases production.

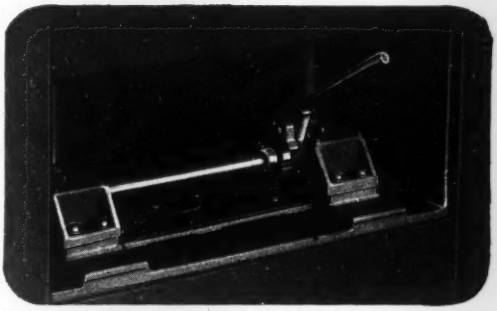


2 **ONLY CRUSHED ROCK** is screened by top deck. Specification material is *chuted around bottom deck* — not through it. Top deck produces independently from bottom deck doubling the effective screening area. Stone chips can be produced without extra equipment.

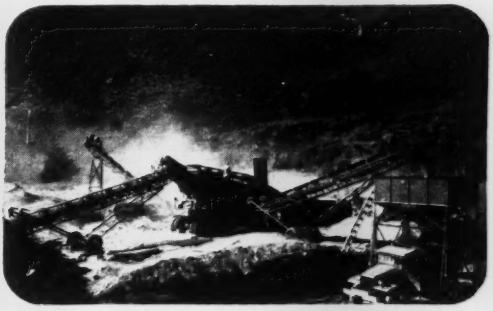
Only bottom deck feed* gives you these 2 high output features—

- ***TWICE THE PAY SCREENING AREA*** because both top and bottom decks produce specification material—independently—at the same time.
- ***MORE CRUSHING CAPACITY*** because the load can be balanced between the crushers *without stopping the plant.*

*Exclusive with Pioneer Duplex Gravel Plants.



3 **THIS SIMPLE RATCHET** on the jaw crusher balances the load between the two crushers *while the plant is operating.* It is not necessary to change screens. When material is coarse, the jaw is opened. If pit run is fine, the jaw is closed.



4 **PIONEER MAKES FOUR SIZES** of duplex gravel plants with bottom deck feed. This Diesel-Electric Plant is the fifth bottom deck feed plant owned and operated by Winston Brothers. A new booklet tells all about bottom deck feed. Send for it today!

BUY BOTH!

Higher Output, Lower Upkeep!

Pioneer

Continuflo **EQUIPMENT**

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Please send me your new booklet telling all about Bottom Deck Feed.

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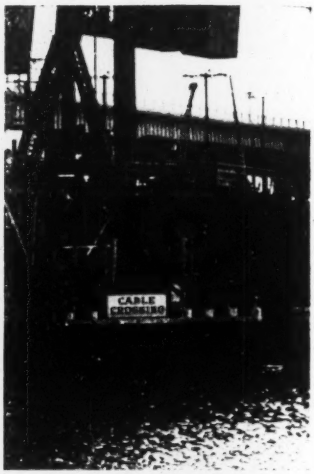
CITY_____ STATE_____

BEFORE—Subsidence of surrounding area necessitated a 7½-ft. rise in the level of the 6,000-ton, 320-ft. double-leaf bascule bridge that spans Cerritos Channel in the Los Angeles and Long Beach harbor area.



AFTER—The bascule was jacked up in a precision operation, to meet the new, higher grade of approach spans.

Heavy Bascule Span Raised 7 1/2 ft. In Five Working Days

THE 6,000-ton, 320-ft. span, double-leaf bascule Terminal Island bridge was raised 7½ ft. in five days recently, to correct conditions caused by land subsidence. The structure connects Terminal Island in the Long Beach and Los Angeles harbor areas with the mainland.

Subsidence of the area—5½ ft. since construction of the bridge in 1924—necessitated this expensive job. (Studies are under way to determine the exact cause of the subsidence, see ENR Oct. 7, 1948, p. 7). Raising the bridge 7½ ft. will provide a 2-ft. margin for possible future settlement. Provision is also being made for further raising the structure if that becomes necessary.

The crossing parallels a new vertical lift bridge (ENR April 15, 1948, vol. p. 578) built as part of the Terminal Island Freeway to provide swifter access to the island. Since the old bridge now carries only local auto and truck traffic and a single-track railroad line, vehicular traffic was diverted to the new bridge during the jacking operation.

However, since the rail line is the only freight access to an area containing a major naval facility as well as many industrial plants and shipping firms, only a five-day period was allowed for the job. Possibility of earthquake hazards and other lateral loads on the bridge while it was resting on jacks were another reason for the speed. The contractor, incidentally, was required to take out $1,750,000 worth of accident insurance.

The bridge was blocked off from auto traffic and approach work was started four months before the raising operation. New fill was placed for the land approaches, new bents were built atop the old in the approach spans, decking was jacked up, then set back down on the new bents. For raising the north approach, 150 building jacks were used.

Readied for raise

While the approaches were raised, the bascule span was prepared for raising. Structural elements were reinforced to resist the unusual stresses that would be induced by the process. All preliminary work was done, so the main span could be brought to the new level in five days of around-the-clock operations.

Actual raising of the bascule section was accomplished by 24 specially designed hydraulic jacks, each tested for a 370-ton load. These were powered by positive displacement piston pumps. They worked against a system of floor beams and columns set in place for the purpose. A telephone system with sets at each jacking station coordinated the movement, keeping the jacks within the ¼-in. tolerance allowed.

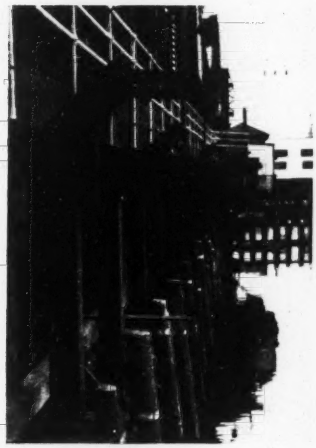
After each rise of ¼ in., shims were inserted for safety. After each 6-in. lift, a grillage consisting of a series of I-beams was set under each column base plate and the bridge was rested on these. Then the jacks were retracted and similar 6-in. grillages were slid under the jack housings.

This process was repeated until a total lift of 2½ ft. had been made. At this stage, the grillages (which had been welded together) were encased in reinforced concrete to provide additional lateral resistance in case of a sudden thrust such as an earthquake load. Concrete was allowed to set six hours before work resumed.

In three such moves the entire 7½-ft. lift was made.

During this time the railroad approaches were also raised. Some 2,000 lin. ft. of fill was placed and track was replaced on it. Trains were moving over the structure six hours after the lift was completed.

The 7½-ft. jacking columns, built of I-beam grillages and encased in reinforced concrete, were left in place in



BENT EXTENSIONS—In raising the approach span, a new set of bents were placed between the bridge deck and the original bents.

HYDRAULIC JACKS in special housings lifted the structure. Shims were inserted each ¼ in. of lift, and steel I-beam grillages each 6 in. of lift.

the event further subsidence makes another raising job necessary.

Contractors on the project were Johnson-Western Co. and Tavares Construction Co. This latter firm was under the direction of its president, Carlos Tavares—contractor on another spectacular western bridge raising job, 45-ft. raising of the Bridge of the Gods across the Columbia River above Bonneville Dam (ENR Oct. 10, 1940, vol. p. 464).

F. C. Earle is chief engineer of the Los Angeles Harbor Department. Robert W. Fontana was superintendent.

Excavation uncovers cave, Tenn. highway job delayed

Working on the last section of a 45-ft. deep rock cut the Tennessee Highway Department recently discovered a deep cavern directly on the line of construction of the new state highway on Monteagle Mountain.

The solid rock roof of the cavern was blown off while shooting the last part of this cut. The cave thus revealed is about 40 ft. wide by 60 ft. long and is estimated to be not less than 140 ft. deep.

The work is a State-Federal-aid project on State Highway No. 2 on the south side of the mountain. The road leads from the valley of Battle Creek in the Cumberland Mountains, to the top of the Cumberland Plateau at the town of Monteagle.

Construction was virtually finished, with completion date set for May 15. An estimated 10,000 cu. ft. of additional material will be required to fill the cavern and this additional work will further delay completion.

Phila. suit seeks to halt prestressed bridge award

A court action has been started in Philadelphia, Pa., following the award of a construction contract for a prestressed concrete bridge to the second low bidder on the project.

The legal tangle has reached the Common Pleas court as the result of a taxpayer's suit asking an injunction to halt the award of the contract for the Walnut Lane Bridge.

The Philadelphia Department of Public Works has awarded the contract to the Henry W. Horst Co., Philadelphia, whose bid was $698,383 for the job (ENR Mar. 17, p. 74). The suit charges that the low bid of $652,000 from the Corbetta Construction Co., of New York had been ignored by the city.

Howard E. Stern, assistant Philadelphia solicitor, said the New York firm's bid had been rejected because it bid on a design of its own—one that differed from the city's specifications.

There was keen competition for the contract since this will be the first prestressed bridge in the U. S. All six bids received were below the city's own estimate of $750,000.

City officials say the Corbetta bid and design differed only slightly from the city's, but it did change the number of supporting beams and the method of carrying the footwalks.

The Corbetta Co. subsequently informed the city it would let the bid stand on the city's own design. The Philadelphia city solicitor's office however held that this offer would have to be ignored, declaring it had the same effect as a complete new bid.

The design calls for precasting of the huge concrete sections of the span and then prestressing them (ENR Dec. 30, 1948, p. 16).

The taxpayer's suit declared the rejection of the Corbetta bid will cost the city $40,000. The contract itself is now awaiting approval by the city controller.

Mr. Stern declared the Department of Public Works had been advised that it could either reject the Corbetta offer to readvertise for new bids. The suit will be heard on April 27 before Judge Charles L. Guerin of the Philadelphia County Common Pleas Bench.

B. C. payment to settle John Hart road fight

The British Columbia government has agreed to pay two contractors $1,744,316 to avoid a possible 5-year legal battle over the uncompleted John Hart Highway. The road will link northern British Columbia and the Peace River district (ENR Dec. 16, 1948, p. 15).

This settlement was approved by the provincial legislature following a report of a special committee which investigated claims of losses by two companies. Campbell Construction Co. of New Westminster, B. C., and Fred Mannix Construction Co. of Calgary, Alta., will benefit.

Contract of the Campbell firm for a 94-mi. stretch in the Pine Pass was revoked last year after the company allegedly failed to complete the work, and two new contracts were let for 56 mi. of the 262-mi. highway to W. C. Arnett & Co., Vancouver.

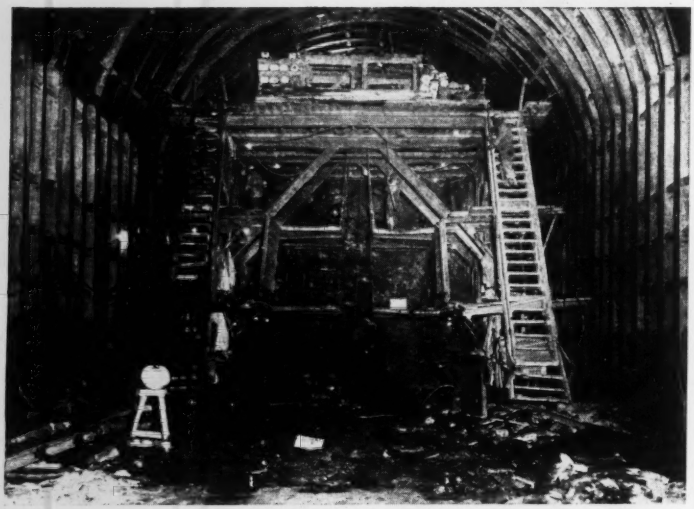
The new contracts added another $2,223,696 to the cost of the highway, now estimated at $11,,000.

The Mannix firm has completed its work.

The final settlement was $1,229,274 for the Mannix Co. and a refund of $515,042 for the Campbell Co., representing deposits seized by the government, plus cost of equipment and supplies seized. The companies agreed to drop all lawsuits against the government.

The companies, in presenting their case blamed losses on construction problems not anticipated from government specifications.

Still to be constructed are 136 miles, which includes rebuilding of 56 miles of existing roads. A total of 126.7 mi. has been completed.



Du Pont Products Help Drive Largest Double-Track Railway Tunnel

The N&W Railroad's new Elkhorn Tunnel, between Coopers and Maybeury, West Virginia, will be 7052 feet long and have a cross-section 35' 4" wide by 34' 8" high in the rough. This is believed to be the largest double-track tunnel on record.

The rock is hard grey sandstone with some shale. Both ends are being driven by the full face method, using four level jumbos mounting 15 drills (top photo). Each round consists of slightly over 200 holes, including a double V-cut, and uses about 1750 pounds of dynamite.

This tunnel is being driven by Haley, Chisholm and Morris under the direction of Supt. R. E. Parker. They chose Du Pont 60% Special Gelatin for this job because it is strong, dense and plastic and has excellent water resistance and fumes. It has long been a favorite for tunnel driving. Du Pont "MS"-100 Delay Electric Blasting Caps are used for the "baby" cut and Du Pont "Series B" Delays, 1st thru 10th periods, in the other holes. A straight parallel hook-up with 440-volt A.C. fires the blast.

For complete information on Explosives and Blasting Supplies, for all types of Contracting work, see your Du Pont Explosives Representative.

E. I. DU PONT DE NEMOURS & CO., (INC.)
EXPLOSIVES DEPARTMENT,
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DEPENDABLE DU PONT TUNNEL-DRIVING PRODUCTS

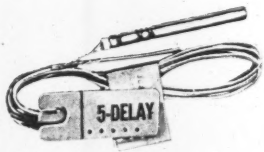
These Du Pont Dynamites and Blasting Supplies are used with full confidence on all types of construction work.

DU PONT SPECIAL GELATIN

. . . used in the Elkhorn Tunnel has long been a favorite with contractors. It's a strong, plastic, cohesive, water-resistant dynamite with excellent fumes.

DU PONT "GELEX"*

. . . economical, semi-gelatinous dynamite also frequently used in tunnels is supplied with or without perforated cartridges. Plastic, extremely water-resistant, good fumes.



DU PONT "SERIES B" DELAY ELECTRIC BLASTING CAPS

. . . a recent addition to the extensive line of Du Pont Caps. The "Series B" is designed to eliminate misfires due to arcing or "water hammer."

*TRADE MARK REG. U.S. PAT. OFF.

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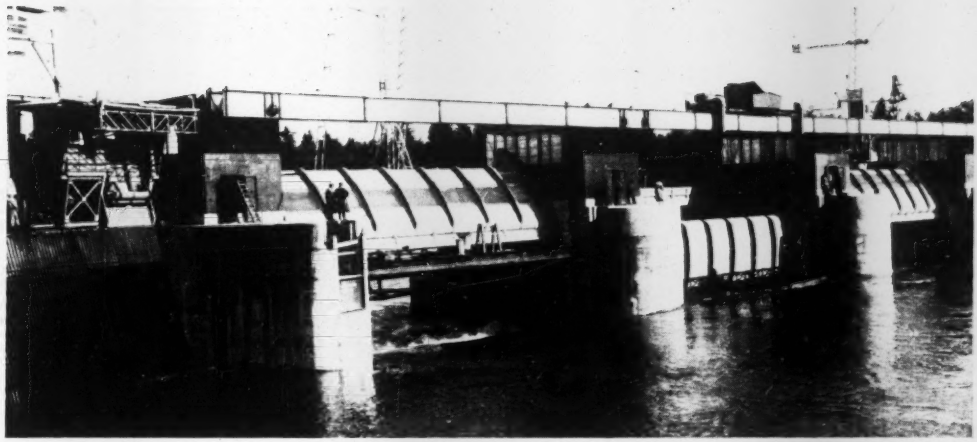
BLASTING SUPPLIES AND ACCESSORIES



CREST GATES to control the river at Rupperswil-Auenstein power plant in Switzerland are a new double sector type.

Double sector gates used at Swiss dam

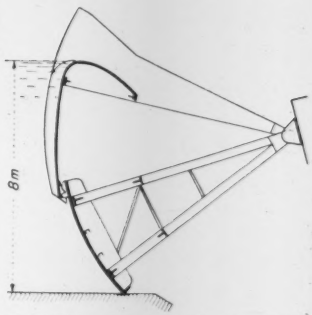
C. F. Kollbrunner,
Civil Engineer and Director,
Conrad Zschokke, Ltd., Doettingen
Switzerland

THREE SECTOR GATES of a design having several advantages over earlier types have been installed on the weir of the Rupperswil-Auenstein hydro plant of the Swiss Federal Railways. These gates are double, being made of two overlapping sector units. They combine the advantages of a double vertical-lift gate or a "roller hook" gate with those of a simple sector gate and have few of the disadvantages of the former types. Service bridges do not need to be as high above water level as those for a single sector gate to provide the same head. Shorter operating chains are required, operating motors are smaller, and there is greater flexibility in the entire operation.

The gates at the Rupperswil-Auenstein plant are 22 meters long and when fully closed raise the water level 8 meters.

As will be seen in the accompanying illustrations, the lower gate, which carries the greater load, has its framing on the downstream side. It is supported on the inner end of pivot bearings set on corbels projecting from the piers above high water level.

Vertical stiffeners for the upper part of the gate are on the upstream face. No horizontal stiffening is provided for the lower edge as it rides on the curved face of the lower part, the thrust being transmitted to the lower section through nine rollers, which travel on rails on the curved face. The smaller amount of horizontal stiffness required for the upper edge is provided by the curved spillway apron plate or hook, which spans the full distance between the double support columns at the ends. These columns are stiffened by plates projecting above the lip of the gate to above maximum overflow level.



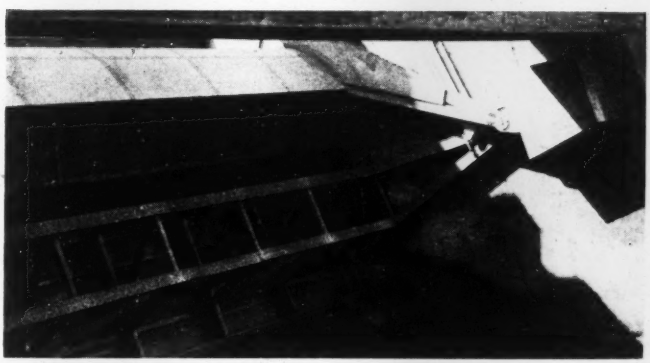
SECTION taken through the double sector gate shows it in closed position.

The columns supporting the upper edge of the upper unit rest on the outer ends of the pinions supporting the lower unit.

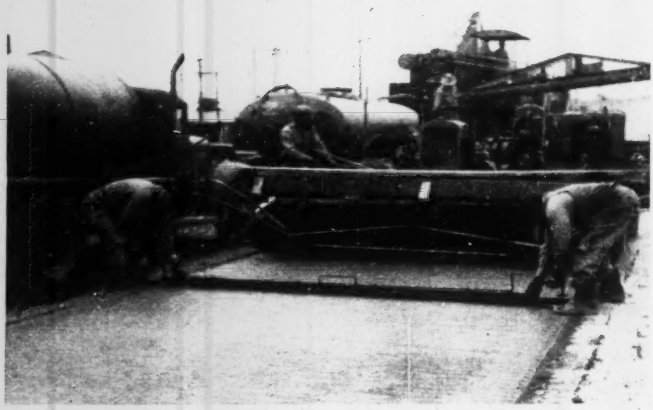
Vertical seals at the ends are provided by "feather flats", which are flexible steel plates bearing against plates set in the pier faces. All seals and bearings are equipped with electrical heating elements to keep them free from ice in winter.

The lower section of the gate can be raised to permit water to be discharged under the gate, if desired.

These gates were designed and built by the Société Anonyme Conrad Zschokke, of Doettingen, Switzerland, under the direction of the author. The design is covered by patents.



GATE FRAMING and supports as seen from the upstream side when the gate is closed.



PAPER BLANKS for dummy contraction joints are placed in freshly screeded concrete by a special hand operated jig.

Roofing paper for contraction joints

Strips of asphaltic roofing paper are now being used to form contraction joints in concrete highway pavements in California. This material is specified as an alternate to wooden blanks previously used (ENR Jan. 22, 1948, vol. p. 133). The strips of roofing paper are pushed into the freshly placed concrete and left just under the pavement surface. As the concrete cures, a dummy crack is formed that leaves the pavement surface smooth.

The use of this paper material represents a further transition in California practice. Originally dummy joints were grooves formed in the surface just before the concrete set. These grooves were filled with a mastic that made the pavement irregular.

Paper replaces wood

Later wooden blanks came into use, these being pushed into the freshly placed concrete as the paper blanks are. However, some difficulty was encountered in getting sufficient quantities of the thin, straight-grained, knot-free wooden strips required at a reasonable price. Thus, the paper blanks were developed as an alternate.

The blanks are ¼ in. thick and slightly less than 2 in. wide. Contractors on the California highway work develop their own equipment for placing these blanks. The accompanying photographs show blanks being placed in Oakland, Calif., on the East Shore Freeway by Fredrickson & Watson, Oakland, Calif., contractor.

After the vibratory screed has made two passes over the pavement, a groove is formed by a hand tool that when not in use is suspended from the back of the screed. Then a special jig is taken from the screed and a paper contraction joint blank inserted. This jig is pushed into the groove to the proper level and a lever operated by one of the two workmen releases the paper blank. The jig prevents damage to the blank in placing it.

The pavement is laid in strips 12 ft. wide and 8 in. thick. It has been the practice to space the paper blanks 15 ft. on centers along the highway.

The East Shore Freeway is a project of the California Division of Highways, George T. McCoy, state highway engineer. J. H. Skeggs is assistant state highway engineer for District IV and Henry A. Simard was resident engineer.

WORKMEN INSERT blanks in the jig just before placing them in the pavement.

CAA cites airports due for improvement in 1949

The 1949 National Airport Plan of the Civil Aeronautics Administration lists 4,977 locations at which airports should be constructed or improved. Selections are based on existing and anticipated demands for air service, D. W. Rentzel, administrator of civil aeronautics, stated this week in announcing the latest revision of the basic plan.

Third in a series of such annual reports—prepared by CAA in accordance with requirements of the Federal Airport Act of 1946—the plan presents a three-year forecast of projects considered "necessary to provide a system of public airports adequate to meet the needs of civil aeronautics."

Of 4,977 locations listed in the 1949 plan, 2,794 are for completely new airports, and 2,183 are for improvement or development of existing fields. The report represents no allocation of funds; it estimates the cost of construction and development outlined in the plan at $1.1 billion of which $510.6 million would be in federal funds and $604.7 million in funds of sponsors.

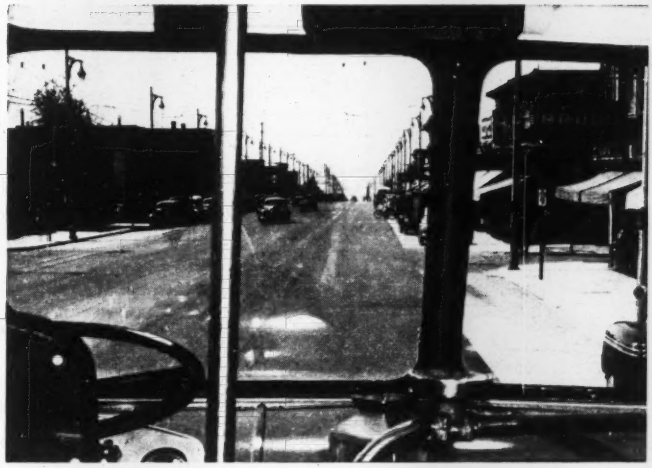
Scheduling based on appropriations

On the basis of the appropriations to be made by Congress, CAA will program for the coming fiscal year the most important locations in the plan.

The 1949 plan lists a total of 567 Class IV and larger airports, of which 24 would be new and 543 for development; a total of 608 Class II airports with 474 new and 574 for development, and a total of 2,358 Class I airports of which 1,777 would be new and 581 for improvement. In addition the plan lists 291 new seaplane bases and improvement of 40 others and 63 new heliports and improvement of an additional two.

New features appear in the 1949 revised plan. In addition to the present and proposed class of airports by states as carried in the 1948 edition, the new plan gives information on those fields that fall into the category of serving scheduled air carriers.

Copies of the 1949 plan may be obtained from the CAA office of aviation information, Washington 25, D. C.



THE REPAVED FRASER AVE. is seen through the window of one of the new buses. Standards support trolley wires as well as modern-type street lights.

Streets repaved in trolley bus change

Marking its recently acquired freedom from streetcars—now replaced by trolley-buses, Vancouver, B. C. is now engaged in an $890,000 program to repave 14 miles of city streets. Under an agreement, paving work is being done by the city to accommodate the improved transportation system being installed by the British Columbia Electric Railway Co., Ltd.

Involved are nearly 57 miles of new trolley-coach routes, and most of them necessitating repaving. In some instances, new routes cover streets previously unused for such public transportation, requiring street widening and some changes in the grade.

The company will make a new capital investment of $10,250,000 in the process of the changeover. Under the franchise arrangement, a percentage of the receipts of the trolley-bus lines operating over these streets will be turned over to the city as partial payment of the repaving costs.

In general, the paving program involves removal of existing streetcar tracks, strengthening the base, and surfacing with an asphaltic mixture.

A typical example is Fraser St. as it passes through an outlying commercial area. Before inauguration of trolley-coach service, this street contained temporary streetcar tracks with narrow flanking strips of pavement each 12 ft. wide. The temporary track was removed by the company and the right-of-way filled in. On each side of the existing pavement, an 8-ft. wide strip of 8- to 10-in. concrete, together with integral curb, was laid. The entire center portion was then repaved with asphaltic mixture to give a street 58 ft. between curbs.

Many of Vancouver's streets were originally paved with wood block. As the repaving progresses, this pavement is being completely removed before repaving work is undertaken. In addition to the work done in connection with the street railway franchise, five miles of downtown wood-block pavement has been replaced at a cost of $540,000. Also included in the city's repaving program is the surfacing of some fifteen miles of road by day-labor forces at a cost of $225,000.

Further paving planned

The first two new bus routes went into operation late in 1948. Nine other routes are now contemplated, to be placed in service on a gradual schedule during the next three years. Thus, an orderly system of paving, bus acquisition and trolley-wire stringing can be effected.

First step in the changeover to a new route is to take the old streetcar line out of service, if one exists. During construction, alternate service is provided by diesel-powered buses over a route covering different streets but roughly paralleling the new route. This allows ample time for all the construction work that is necessary while yet providing transportation service.

The city department of lighting is also improving electrical facilities simultaneously with the trolley-coach installation. Many of the steel poles required to support the trolley wires are also being used to support modern pendant-type electroliers for street lighting.

Reasons for trolley-coach selection

The British Columbia Electric Railway Co., Ltd. had several reasons for selecting trolley coaches to replace its streetcar lines. One of these obtains in almost all street railway systems: The prohibitive cost of track maintenance in recent years. The franchise agreement for trolley-bus service with the city of Vancouver calls for a percentage of the "take" to be turned over to the city for the repaving work, but such an arrangement is much cheaper than maintenance tracks. Second in importance was the need for an almost complete replacement of existing streetcars. Because of anticipated savings, company officials expect the new system to be self-supporting.

Trolley coaches were selected for fumeless, relatively noiseless operation. Also, the British Columbia Electric Railway Co., Ltd. also is the public utility supplying electricity to almost all of British Columbia. Thus "fuel" supply for the new coaches will be relatively cheap. Ample hydroelectric power is available in British Columbia at far less cost than motor fuel.

General contractor on the repair depot was the Dominion Construction Co. Ltd.; excavating and grading was done by W. D. Construction Co. Ltd. Engineering was by company forces. Work on the street-repaving program is under the direction of C. A. Battershill, city engineer.

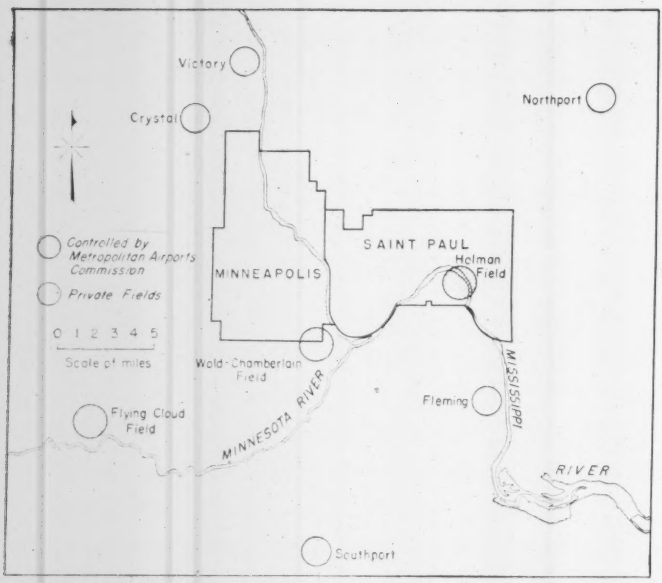
Demand exceeds supply of retail business space

Demand still exceeds supply for retail office and industrial space, the 49th semi-annual survey of the real estate market by the National Association of Real Estate Boards disclosed recently. The survey covered 505 cities in 47 states. Chief findings were:

(1) Rents for retail business and office space have a rising trend, both in downtown and outlying business areas.

(2) Shortage of retail business space is felt in 71 percent of the reporting cities. Over-supply is reported by only 2 percent.

(3) Despite wartime expansion of industrial facilities, good industrial space is still in short supply in 64 percent of the reporting cities. Over-supply is listed in only 3 percent.



METROPOLITAN AIRPORTS COMMISSION has jurisdiction over these fields and others farther out in a 2,200 square mile area surrounding the Twin Cities. At present, only the largest three are actually operated by the commission.

Twin Cities drop traditional rivalry, find success with airport commission

When war-time air traffic proved the terminal facilities at both Minneapolis and St. Paul to be woefully inadequate, each of the Twin Cities planned to construct a major, multi-million dollar airport.

But Minnesota's legislature came through in 1943 with an idea for coordinated effort—under a Metropolitan Airports Commission.

This autonomous governmental body was given responsibility for developing full and effective air transport in and through the state; jurisdiction over 2,200 square miles within and surrounding the Twin Cities; and authority to borrow up to $15,000,000 for construction projects.

At present the commission owns three airports and has plans to acquire three additional sites for development as secondary fields. Wold-Chamberlain Field, south of the Twin Cities—formerly the Minneapolis airport—has been established as major air terminal for the area. Its recent annual record was 324,876 aircraft arrivals and departures, and its total revenues have quadrupled since the commission took over in 1943.

Legislation creating the commission provided that any deficit arising from its operations should be met by the two cities—St. Paul making up one-third and Minneapolis two-thirds. An anticipated $100,000 deficit will have to be made up by the two cities this year. However, once the commission has completed its expansion plans, it hopes to make operations pay for themselves.

In its expansion program, which gets into full swing this summer, the commission will add 1,200 acres to Wold-Chamberlain Field. Runway improvements will be made to meet CAA specifications for a Class VI airport. Estimated cost of expansion, contemplated for 1949, is put at $4,000,000, including land acquisition. Federal participation may run to as high as half the total cost.

At Holman Field—second largest airport under the commission's jurisdiction—additional acreage will be acquired to permit installation of a 7,000 ft. runway by the federal government for National Guard jet plane operation.

Improvements are also planned for this summer at the commission's Flying Cloud Field, southwest of Minneapolis. Planned acquisition of three secondary airport sites will siphon off the overload of light plane traffic using the larger fields at present.

The commission's first six years have been a formative period during which it experienced its share of growing pains. Much new law was written in creating the group, and this has all had to be tested in the courts—a matter which has consumed much time. Two public hearings are required by law for all property acquisitions necessary for airport expansions. Hearings developing out of this requirement have involved voluminous and exhaustive testimony and engineering studies, but the careful and forthright operations of the commission have earned it the public respect of both cities.

Commission organization

Mayors of the two cities are commission members, along with one member from each city council, a representative from each city's board of commissioners that formerly handled airport matters, and a citizen commissioner from each city, appointed by the respective mayor with council approval. Chairman of the commission is appointed by the governor and must come from outside the area under commission jurisdiction. Jurisdiction extends to within a 25 mile radius of the city halls of each of the two cities.

It has been found most efficient to decentralize airport operation and management to the respective airports, leaving the commission free to concern itself largely with the overall problems of the area. Administration of the commission's business is at present entrusted to an executive director, Robert Aldrich, who has had a lifetime of experience in aviation. Prior to coming with the commission in 1943 he was director of the airways and airport division of American Airlines.

USGS announces map depot established at Denver

U. S. Geological Survey Director W. E. Wrather has recently announced the establishment of a western Map Distribution Center in Denver, Colo.

This center has been established by USGS to bring better service to the western states. Since April 1, topographic and geological maps of areas west of the Mississippi river have been obtainable by addressing requests to U. S. Geological Survey, Denver Federal Center, Denver, Colo. Maps of areas east of the Mississippi river must still be ordered from the Director, U. S. Geological Survey, Washington 25, D. C.

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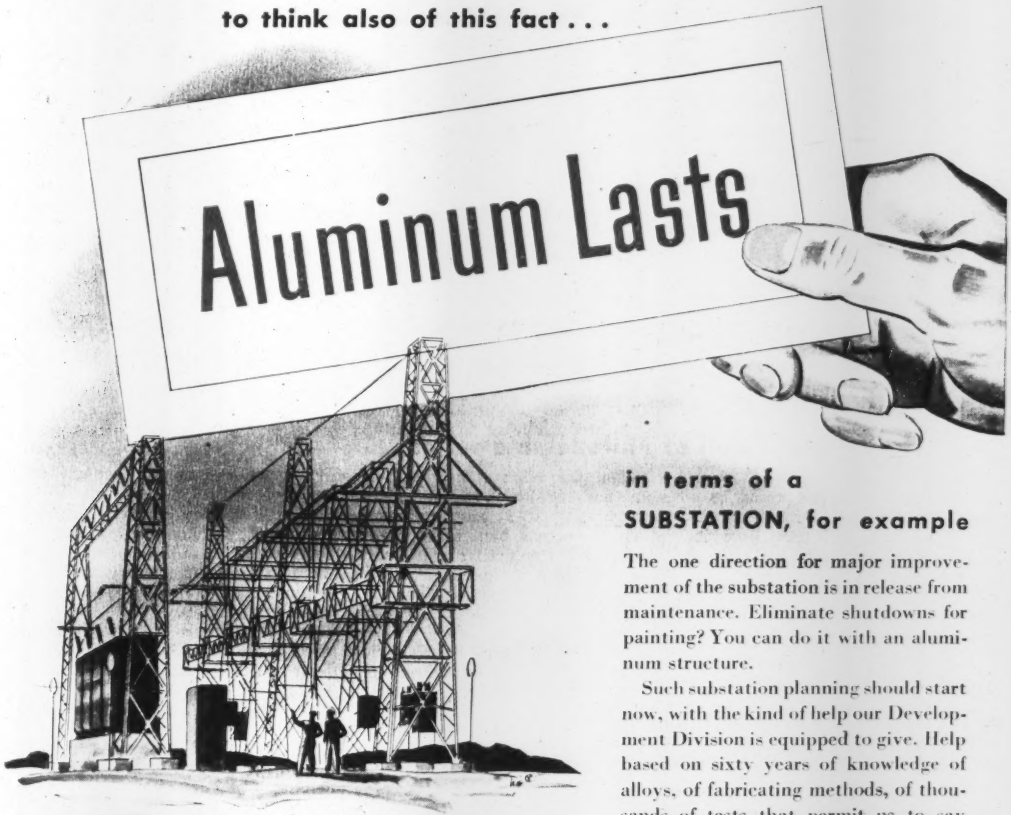

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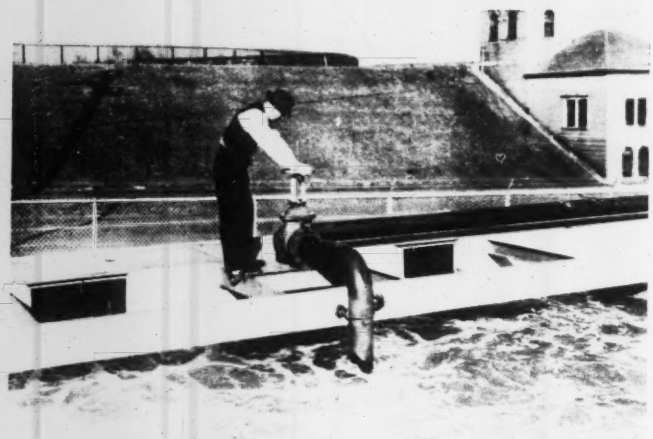

OZONE TREATMENT—This Philadelphian is controlling the mixing of water with ozone. Action in the tank resembles that which takes place in clear mountain streams, when bubbles floating upward come into contact with the water and aerate it, resulting in water pleasant to smell and taste. The ozone mixer is part of the large unit installed at Philadelphia's Belmont Filtration plant.

Ozone kills taste, smell of Philadelphia water

Philadelphia officials last week hailed what they hoped would be a new era in the city's attempts to remove bad taste and odor from its drinking water.

Mayor Bernard Samuel set in operation what is believed to be the world's largest ozone generating plant for water purification, at the Belmont Filtration plant in West Philadelphia.

Like many other highly industrialized cities, Philadelphia for many years has been annoyed by taste and odor in a water supply drawn from surface streams—the Delaware and Schuylkill rivers. Industrial waste and decaying organic matter are blamed for this.

The solution was either to seek new sources of water in upstate Pennsylvania at very high cost, or to improve the water from present sources. City officials chose to take the latter step. In cooperation with the city, the Welsbach Corp. of Philadelphia conducted a series of pilot plant tests to find out what ozone could do to improve taste and odor.

The tests were run over a two-year period. When results showed that ozone could be used effectively and at reasonable cost, contracts for the plant were awarded to Welsbach.

The giant ozone generators and equipment were built at a cost of $600,000. The plant will treat about 36 mgd., ultimately 70 mgd.

When raw water from the Delaware and Schuylkill rivers passes through the city's water treatment plant, all bacteria harmful to health are removed completely. But a few taste and odor compounds remain. Ozone destroys these in much the same manner that fresh air purifies a country stream, but faster. When ozonized air is sent bubbling up through river water, it releases very active molecules of oxygen that attack taste, odor and color producing matter.

To produce ozone at the Philadelphia Belmont plant, air is first dried and cleaned—then passed under pressure in the ozonator across a powerful electric discharge. In this step some of the oxygen in the air changes to ozone. This ozonized air is then mixed with water in mixing chambers.

Sewers and Water

As usual, sewers and water supply this week are at the forefront of municipal problems.

At San Jose, Calif., for example, sewage floating in the streets and yards of two new subdivisions forced the city council into belated corrective action. Heavy rains (in an area where rainfall had been light for several years) flooded septic tanks.

So the council will award a contract to George L. Sullivan and Charles G. Hyde, consulting engineers, for design of a sewage treatment plant. San Jose is the last major California city to take steps to comply with a State Department of Public Health order prohibiting discharge of untreated sewage effluent into state water.

The plant is the same one recommended in a 1946 report by Sullivan and Hyde (ENR, Jan. 16, 1947, vol. p. 88) to take care of the needs of Santa Clara County, in which San Jose is located. The original report also recommended sanitation districts within the county. However, San Jose officials prefer to build a city plant and offer sewage disposal to county areas for a fee.

The new plant will cost an estimated $3,000,000 and will have a 45 mgd. capacity. Hyde and Sullivan will prepare a preliminary plan to be submitted to state officials in July. A bond issue will be necessary to provide construction funds.

Other developments included: Legislation has been prepared requesting the Scioto-Sandusky Conservancy District to grant Columbus, Ohio, the right to build its own dam in Big Walnut Creek to improve water supply. The first stage would provide 35 mgd at a cost of $6,130,000, of an ultimate 47 mgd. yield.

Dallas, Tex., reported it has $3,504,679 of water expansion contracts under way.

Metcalf & Eddy, engineers, of Boston, Mass., recommended a $2,479,500 program of improvements to the city's Wilmington, Del. water works system, especially in pumping and treatment facilities.

In Pennsylvania, state grants-in-aid checks totalling $577,592 have now been sent to 107 municipalities, representing part of the cost of preparing plans for sewage treatment works under the clean streams program.

At Orlando, Fla., there are plans for a new sewage disposal system and treatment plant. The central plant, outfall, pumping stations and new mains would cost an estimated $3,500,000. The total cost of the Orlando system, designed by Smith & Gillespie, will run from $150,000 to $300,000 less than estimated.

Traffic and Parking

Practically everywhere, traffic and parking remained the big municipal headaches. Here are some of the latest palliatives:

A 35-mile system of expressways has been mapped for Milwaukee, Wis., with a traffic interchange as the heart of the entire system recommended by DeLeuw, Cather & Co., Chicago.

At St. Paul, Minn., it has been learned that 30-minute traffic meters

take in 37 percent more money than one-hour meters, make for greater parking turnover.

Forty-second Street, New York, one of the busiest thoroughfares in the world, will undergo complete repaving this summer. This work will include the removal of the old, and now unused, trolley tracks. Vehicular traffic will be slowed down as the work progresses but at no time will it be completely blocked. Radiant heating installations will be placed under most crosswalks for snow removal.

The engineering department of Duval County, Fla. (Jacksonville) has completed a map showing in detail how the new Riverside-Southside Causeway, the existing Main Street and St. Johns River bridges will be linked into the superhighway's southside arteries. This link will provide new approaches for old bridges and end today's traffic jams.

The Minnesota legislature will be asked to make possible eleven new truck highways within the city of Minneapolis. The proposed new routes would add 38.7 miles to the 64.9 miles of truck highways which now pass through the city.

Owen Smith, traffic engineer of Oklahoma City, Okla., has proposed three 3-story parking buildings to cost about $2,370,000 and to provide off-street parking for 2,600 cars. How to finance the plan is the big problem.

Akron, Ohio, has a $4,600,000 street repair program for 1949. Service Director M. L. Davis says it is the "biggest attack on traffic congestion since the 1920's."

Parking meters sometimes are used to measure parking time in off-street lots as well as along curbs. At least 28 cities use this means of financing their parking lots. The vehicle capacity of parking lots varies widely, ranging from one lot accommodating 20 cars in Wisconsin Rapids, Wis., to nine lots accommodating 5,520 cars in Cleveland, Ohio. Lots with vehicle capacity ranging from 100 to 500 cars were the most popular with about 200 cities.

Chicago Terminal Authority

The Illinois legislature is considering a bill to create a Chicago Terminal Authority with jurisdiction over all railroads and freight terminals in and near Chicago.

There are now six terminal passenger stations in downtown Chicago, with as confusing names as Union Station, Central Station and Grand Central Station, as well as a medley of downtown freight houses and terminals.

The problem of finding adequate central terminal space has increased in recent years with the advancing prices of real estate and the constant erection of permanent buildings, streets, subways and other facilities.

RADAR CONTROLS PORT TRAFFIC—Long Beach, Calif., claims honors as first American city to install radar to guide shipping in its harbor. The radar is transmitted from atop a 120-ft. steel tower and records all ship movements within 30 miles. Even in zero visibility, the radar operator can "talk" port pilots through the breakwater, using ship-to-shore radio. (Wide World Photo)

Garbage Grinders

Jasper, Ind., population, 6,200 is pioneering in the effort to do away with the back-step garbage pail and smelly garbage collection trucks.

Backed by a new state law which permits cities to issue revenue bonds for the purchase, installation and maintenance of electric garbage grinding units, the city hopes to have the machines installed in every home.

Mayor H. E. Theyen is ready to launch a campaign to educate his fellow townsmen as to the advantages.

Toronto's Subway

The Transportation Commission of Toronto, Ont., has asked bids on the first two sections of the city's proposed underground rapid transit system. The first two sections to be let will be in the downtown area and will call for excavation and concrete work and replacement of existing public utilities. The first section will run east on Front St. from the Toronto Union Station to Yonge Street, and north of Yonge St. to the south side of Queen St., a total of eight blocks. The second section will extend from the south of Queen St., north on Yonge St. to College St., about the same distance.

The commission's engineering department figures on 800 working days to complete the excavation and concrete work, the jobs to run simultaneously, and estimates the cost at $10,000,000.

Building Codes

Miami, Fla., Los Angeles, Calif., and Akron, Ohio, took action last week on modernizing building codes.

Miami's Building Code Revision Committee instructed Forrest D. Banning, its administrator, to ask the Building Officials Conference of America to send a consultant to Miami to assist in drawing up the code. It also proposed using the conference's model national building code as a guide for Miami's new code.

A 15-year-old provision in the Los Angeles building code, requiring that treated lumber be used in construction of houses, has been deleted by the city council.

The council instructed the city attorney to prepare an ordinance removing from the code the section which provides that underpinning of frame buildings must be pressure treated with a wood preservative (such as zinc chloride, wolman salts or copper sulphate), particularly as a guard against termites. One clause in the section, however, was retained. It stipulates that all wood members touching concrete or masonry must be treated.

At Akron a plan to take all licensing provisions out of the new city building code is being discussed. Mayor Slusser says he will ask the city council to set up a separate division on licensing.

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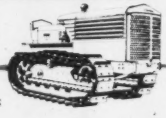

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OBITUARY

Frederick C. Finkle, 83, Southern California water expert, died at Santa Monica on April 7. Educated at the University of Wisconsin, he went to California in 1887 and served for years as chief engineer of the Southern California Edison Co. From 1898 to 1907 he was chief hydraulic engineer of the company, designing and superintending the construction of seven hydroelectric plants.

John Howard Ford, 66, civil engineer and president of the Union Iron Works Co. in Washington, D. C., died there April 1. A graduate of Lehigh University in 1906, Mr. Ford served as district engineer for the United States government in the Philippines from 1907 to 1909. Later he was consulting engineer in Philadelphia and Washington.

Harold Andrew, 58, died at Peoria, Ill., March 27. For 25 years he had been a civil engineer for the Illinois State Highway Department, and latterly was assistant district engineer of county roads and city streets in District 4. In the first world war he served with the U. S. Army Engineers.

Warren C. Bevington, 60, Indianapolis, Ind., engineer and member of the Board of Sanitation Commissioners, died April 1. He was president of Bevington, Taggart and Fowler, Inc., consulting engineers. He went to Indianapolis in 1913, and in the early 1920's founded Bevington-Williams, Inc., an engineering firm. In 1941 he organized the present firm.

Harry W. Alcorn, 80, city engineer at Barberton, Ohio, for 46 years, died April 3. He went there in 1893 to help lay out the village and held the post of engineer from 1893 until he retired in 1940. After retiring, he acted as a consultant engineer for the city utilities department.

George W. Drury, 74, Winchendon, Mass., formerly state highway superintendent, died March 24. He served the state highway department for many years, first as a foreman and later as superintendent of road construction.

Arthur Philo Terrill, 65, Greenwich, Conn., civil engineer, died March 27. Mr. Terrill was a former member of the Public Service Commission of New York and of the Insterstate Commerce Commission, and had served in an engineering capacity on construction of the Pennsylvania Railroad tunnel and terminal at Long Island City, N. Y. He was graduated from Sheffield Scientific School, Yale University, in 1908.

David A. Duffy died at West St. John, N. B., April 3. For many years he had been on the city engineering staff.

David Edward Jones, 67, a construction superintendent for the Ohio Highway Department, died April 5, in Youngstown. He was with the department for 20 years.

Havelock L. Torrey, 82, died April 1, at Halifax, N. S. He had been in the construction industry, particularly on highway and railroad contracts. While a member of the Nova Scotia assembly for 8 years, he was responsible for the first paved roads in Guysboro County.

Edward George Powell, 84, who erected the Ontario legislative buildings and the city hall of Toronto, Ont., died April 2.

C. S. Garner, 73, former vice-president of the American Bridge Co., died at Ben Avon, Pa., April 11. Mr. Garner, who as general manager in charge of erection, supervised personally many of the largest construction projects in the country, had retired at the end of 1945 on completion of 50 years' service. Among the projects which he carried out personally were the San Francisco Bay bridge and the Metropolitan Life Insurance Co.'s building in New York. He also supervised construction of the Trylon and Perisphere, symbol of the N. Y. World's fair of 1939. He began in the structural steel field with the Milwaukee Bridge Co., and when that firm was merged with the American Bridge Co. in 1900, he went to the bridge company. For many years he was general manager and in 1938 was promoted to the vice-presidency. Born in Shelby Grove, Tenn., Mr. Garner was educated in public schools there and at the University of Pennsylvania.

Henry W. Estey, 83, city engineer for Malden, Mass. for 43 years, died April 9 at his home in that city. He laid out many of the city's streets and park systems.

Wayne F. Coombs, Sr., 56, West Virginia engineer and president of the Baker and Coombs Construction Co., died April 9, at Morgantown. The firm which he headed built some of the largest commercial buildings in West Virginia.

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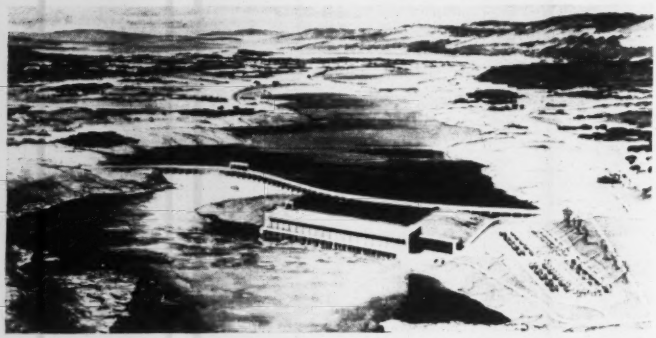
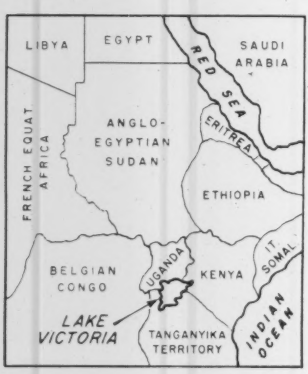


AFRICAN HYDRO PROJECT—Irrigation and electrical power potentialities of Lake Victoria invite exploitation. British Uganda and Egypt have announced plans for a $48,000,000 dam. (British Combine Photo)

British Uganda—A huge irrigation and hydroelectric power scheme has been launched by the governments of British Uganda and Egypt. First phase of this plan includes construction of a dam at the Owen Falls to regulate discharge of Lake Victoria into the White Nile.



Cost of this structure is estimated at $48,000,000. According to recently announced plans, the Egyptian government will contribute $16,000,000 and the British Protectorate of Uganda $32,000,000.

Land under cultivation in Egypt will be increased from 5,900,000 acres to about 7,000,000 acres due to the additional irrigation water from this proposed project. In the Sudan (which is jointly administered by Britain and Egypt) the irrigable area will be increased from 862,000 acres to 2,500,000 acres.

Electricity will be generated for the industrialization of British Uganda. Also to receive electrical power from the proposed hydroelectric installation are parts of Tanganyika, British trusteeship, and possibly the Belgian Congo.

Six turbines, each with an output of 15,000 kw., will be installed. Foundations of the dam, and the turbine housings, have been planned so that the dam could be raised in height, and two extra 15,000-kw. turbines could be added in the future.

These plans were disclosed first by British Minister of State Hector McNeil in London. In its entirety the plan calls for a series of dams and power stations along the Nile which would affect Ethiopia, the Sudan, Egypt, Uganda, Tanganyika and the Belgian Congo.

Shortly after announcement of the plan in London, there came severe criticism of it from Ethiopia. Fred Bazzi, chief engineer for Ethiopia's nine thermol and two hydroelectric power stations, claims that no practical purpose would be served by the plan. Bazzi, who has conducted extensive surveys in the area, reports that it would be practically impossible to get heavy construction equipment to the scene. There are no navigable rivers, railroads, or satisfactory all-weather roads leading to the proposed dam site, he claims.

Transport

India—Plans for the development and modernization of India's major ports at an estimated cost of $75,000,000 and of national highway works costing $90,000,000, were outlined in a report of the Ministry of Transport presented to Parliament late last month.

Port development plans include improvement of navigational approaches to the port of Calcutta by constructing a ship canal. A scheme for construction of a dock in Madras costing $15,000,000 is also under consideration.

Estimated expenditures for national highways during the period ending in 1953 has been fixed at $70,800,000. Among important works now in progress is improvement of the important road link between Assam and the rest of India.

The third official delegation of Indian highway engineers to visit America since the war will have an 18-week course of specialized training in modern construction methods. This group will consist of nine men, headed by D. P. Navar. Two groups totaling 43 Indian highway engineers have already completed training courses in the U. S.

Public Construction

Argentina—Despite a shortage of foreign exchange, the Argentine government is going ahead with an extensive public works program to be carried out with the materials and labor at hand.

Including both normal public works and the special projects of the five-year-plan (now in its third year), the budget for 1949 for public works amounts to 2,684 million Argentine pesos, or about $5,300 million U. S. dollars at the official rate of exchange.

Airports

Greece—Thirteen Civil Aeronautics Administration specialists are on their way from the U. S. to Greece as members of an Economic Cooperation Administration civil aviation mission.

Under an agreement with the Greek government—concluded Feb. 25—the mission will assist in the establishment, maintenance, operation and improvement of Greek civil aviation facilities. In addition, the group will train Greek personnel in operation and maintenance. The program will assist Greece in supplying the minimum air navigation facilities necessary for international civil air transportation.

CAA personnel will act in an advisory capacity and will be responsible to the chief of the ECA mission to Greece, John Nuveen, Jr.

Members of the aviation group are expected to stay in Greece about a year. Kenneth Matucha, superintendent of the airways operations branch in Kansas City, heads the CAA party. It will be joined by a meteorology specialist from the U. S. Weather Bureau. Meteorological consulting service will be furnished as required by Norman C. Hagen, meteorology attache, assigned to the American embassy in London.

Brazil—An airport capable of handling four-engined planes is planned for the city of Guaira in the southern state of Parana. This airport, along with others under consideration, will form a chain of fields running north and south across central Brazil. At present all major airfields are along the coast.

Power Projects

Australia—British equipment, and American and British engineers, will be required to carry out the ambitious power scheme just approved by a conference of Australian federal and state ministers.

The development scheme, which involves a chain of twenty hydro-electric stations harnessing the Snowy River, south of Canberra, and a number of atom-bomb-proof underground munitions factories, will cost in the neighborhood of $600 million and will take 25 years to complete.

Part of the British Commonwealth's long range defense plan, the hydro-electric projects are to be put under way immediately. Equipment for 20 stations is already being sought in the United Kingdom. Australia intends to seek the help of experienced engineers and technicians from abroad in planning and construction.

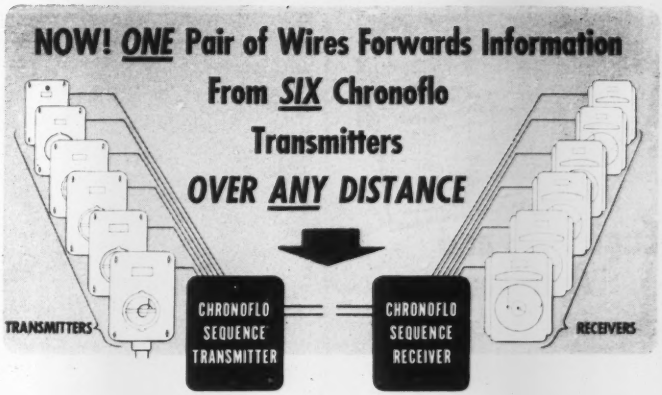
At the conference of ministers it was brought out that most Australian key industries and munitions factories are at present near the coast and exposed to attack. Originally these had to be by the sea because of the vast quantities of coal needed to generate power. However, the new hydro-electric power stations will be far enough from the coast, and well enough dispersed, to satisfy security and defense requirements.

Scotland—The two latest hydro-electric construction schemes to be approved for the north of Scotland will add a generating capacity of 96,000 kw.—an annual estimated production of 384 million kwh.

These two schemes are at Glen Moriston, in Inverness-shire, and at Glen Garry, in Ross-shire.

Six new dams, seven new generating stations, and, ultimately, an entire new village will have to be built. The Moriston scheme is the larger of the two, and it is estimated to cost about $32,000,000. Loch Loyne will be raised by a dam 1,542 ft. long and 61 ft. high. A tunnel will take water from here to Loch Cluanie, which will be raised by 2,015 ft. dam, 108 ft. high. Two other lesser structures will be built, one near Dundreggan, and the other about two miles upstream from Invermoriston.

The Garry project, involving two dams and two power stations, will cost



Builders new Chronoflo Sequence System brings substantial savings to long distance telemetering. A single telephone circuit now transmits up to six sets of information from Builders Chronoflo Transmitters,—water level, temperature, pressure, flow, etc.—centralizes control of remote pumps and equipment, and, with reduced personnel, provides round-the-clock operational data from outlying stations.

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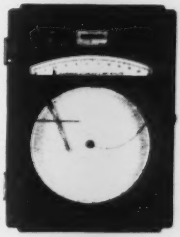

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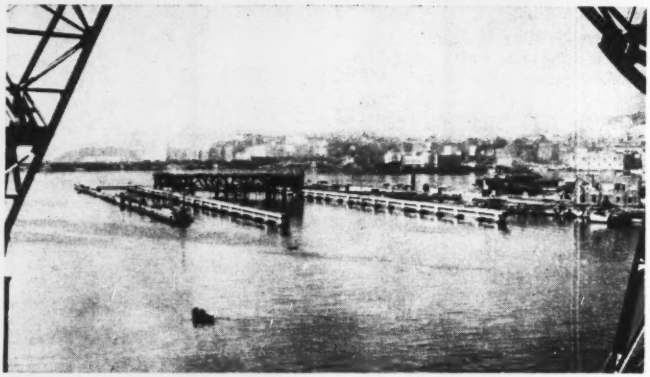

NAPLES BUILDS A DRYDOCK—Italy is putting ERP funds to good use in Naples harbor. When completed three years hence, this project will be the largest of its kind on the Mediterranean—measuring 1,059 ft. by 132 ft. Total cost is to be $7,826,000, of which ERP will put up 60 percent. (Acme Photo)

nearly $19,400,000. A dam, 806 ft. long by 107 ft. high, will be constructed at Loch Quoich; the second dam, 1,026 ft. long and 84 ft. high, will be built at the eastern end of Loch Garry.

Artificial spawning beds and fish ladders will be provided, and a fish hatchery will be established to compensate for the effect of both the Moriston and Garry schemes.

India—Prime Minister Nehru of India recently asked Indian engineers to strive to develop the undeveloped resources of the country. Referring to the Himalayas, he asked: "Can you think of any other part of the world with such a magnificent stretch of mountains with a vast reservoir of power and potential strength locked up in them?" The remarks were made at the annual meeting of the Central Board of Irrigation in New Delhi.

A. N. Khosla, President of the Board, outlined the progress so far made on India's river valley projects. He said four of the projects, the Tungabhadra in Madras, the Bhakra in the East Punjab, the Damodar Valley in Bihar and West Bengal, and the Hirakud in Orissa are under construction. Some others are ready for sanction and execution, and some are in various stages of investigation and preparation.

Projects like the Bhakra, Kosi and Ramapadasagar are likely to cost more than $300 million each. The completion of any one of the major projects will provide enough additional food to overcome India's deficit and enough power to start several heavy industries of economic importance.

Development of river valleys in India, Khosla added, will be a continuous process. It will not end in 20, 30 or even 40 years, as there are numerous virgin regions to be served.

India's installed hydro-electric generating capacity today totals only about 500,000 kw and represents barely 1.5 percent of her potential, according to a recent study by the Central Board of Irrigation. Additional projects now on the drawing boards would add another 14 million kw, when and if they are completed.

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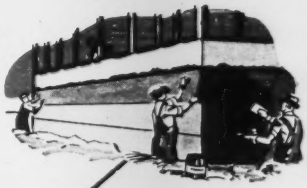

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MEN AND JOBS

Gilbert Groff, sanitary engineer with the North Dakota health department, has resigned. He will be succeeded by **William Gahr,** former senior sanitary engineer. Groff has started an engineering consulting firm at Salem, Ore., in partnership with **Warren Clark,** former state sanitary engineer in North Dakota.

Raymond C. Smith, civil and structural engineer, with the United States Engineer Department during the war and more recently with the Federal Works Agency, has returned to private engineering, associated with Cecil C. Arnold, civil and structural engineer, who likewise was with the U. S. Engineers during the war—as chief of the construction branch of the Seattle District. Prior to the war Mr. Arnold was a bridge engineer for the Washington State Highway Department. They are engaged in general civil, structural and bridge engineering practice with offices in Seattle. They have completed a highway bridge for Whatcom County, two emergency airports for the Washington State Aeronautics Commission and a muncipial airport for Prosser.

Robert L. Miller, a field engineer for the past 12 years for the Portland Cement Association in the Milwaukee district office, has become associated with Drummond Dolomite Inc. of Sheboygan, Wis.

Jean Yves Bernier, city engineer of Hull, Que., has resigned.

A. W. Schroeder, Danville, Ill., has been named chief engineer for the Chicago and Eastern Illinois Railroad, succeeding **J. S. McBride,** who has been appointed chief engineer consultant. Mr. Schroeder was formerly assistant to the engineer of track for the Burlington System.

Engineering Consultants, Inc., has been established at Kennewick, Wash., by **Bert Bowelle,** civil engineer of nearby Richland.

Appointments of members of Texas Highway Commission have been confirmed by the State Senate as follows: **Fred Wemple,** as chairman, succeeding **John S. Redditt,** resigned; **A. F. Mitchell** of Corsicana, for a term ending Feb. 15, 1951; and **R. J. Potts** of Harlingen, for a term ending Feb. 15, 1955. Both Potts and Mitchell are civil engineers. Potts resigned as president of the Texas Good Roads Association. Wemple is a past president of that organization.

Worth Candrick, chief of the engineering division, has been promoted to executive officer for the U. S. district engineer at Charleston, S. C. He will be succeeded by **Forrest L. Dye.**

G. Webber Knight heads the new Washington, D.C., office of the McPherson Co. of Greenville, S.C., at 927 Fifteenth St., N. W.

This group at the recent ARBA conference and annual meeting at Washington, D. C., includes, left to right, Charles W. Smith, Pensacola, Fla., vice-president of the Southern District, American Road Builders' Association; Charles M. Upham, engineer-director, Washington, D. C.; J. T. Callaway, Chicago, retiring president, shaking hands with Enoch R. Needles, New York City, new ARBA president; Paul B. Reinhold, Pittsburgh, Pa., vice-president, Northeastern District.

Employees of the Florida State Road department have been attending a 12-week training course conducted by the civil engineering department of the University of Florida. Pictured here is a group compacting soil in a California Bearing Ratio mold, using an automatic soil tamper. Left to right, they are Glenn F. McKinney, John P. Roberts, Wm. L. Judson and Byron H. Mashburn.

E. G. Johnson (left), office engineer, and R. G. Manning, progress engineer, both for Utah Construction Co., check latest figures on work done on Davis Dam, USBR project on the Colorado River. The hat, heavy shirts indicate that in spite of summer temperatures of 120 deg. F. it can and does get cold in that part of Arizona in the winter.

Harry Beethans, of Lancaster, has been appointed highway engineer of Grant County, Wis. He was in the state highway department.

Alfred O. Norris, who has been vice-president and general manager of the Birmingham, Ala., Water Works Co. since 1940, has accepted a like position with the Indianapolis, Ind., Water Co. He will be succeeded by **W. H. H. Putnam,** who has been assistant general manager of the corporation, a subsidiary of the American Water Co. **Raymond W. Roberg,** who served with the armed forces and was formerly chief engineer of the company, will become assistant general manager.

James F. Barnes, president of Barnes & Reinecke, Inc., Chicago, has announced the recapitalization of the design and engineering firm, and the appointment of a major stockholder, **Thomas W. Alder,** of Glencoe, Ill., as executive vice-president and treasurer. Mr. Alder was for many years secretary of Von Lengerke & Antoine, Chicago, later taking over the presidency of Blake Manufacturing Co., Rock Island. He is a Massachusetts Institute of Technology graduate.

W. F. Sessoms, who has been with the North Carolina Highway Department at Ahoskie, N. C., has been transferred to Elizabeth City, N. C., as resident engineer for the Elizabeth City district.

R. L. Groover, of Wilmington, N. C., chief engineer of the Atlantic Coast Line Railroad, also has been appointed chief engineer of the Winston-

John S. Macdonald did the honors for the contractor at the recent holing through of the diversion tunnel at Downsville Dam, N. Y. He is project manager on the job for Walsh Construction Co., Davenport, Iowa, and B. Perini & Sons, Inc., Framingham, Mass. who are joint venture contractors on diversion and earth dam cut-off wall.

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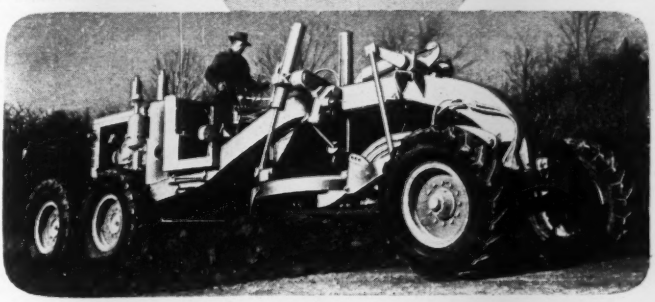

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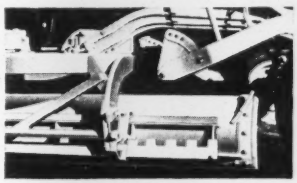

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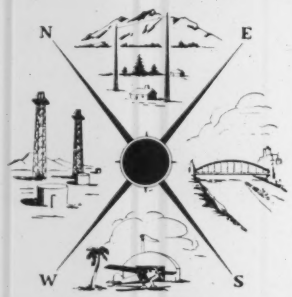

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hot-dip GALVANIZING

Salem Southbound Railway Co., a subsidiary. He succeeds the late **D. B. Packard** of Rocky Mount, who died Feb. 25. He obtained his civil engineering degree from Alabama Polytechnic Institute in 1914, upon graduation joining the Atlantic Coast Line as a draftsman. During World War II he served with the Office of Defense Transportation in Washington, D. C., and was made chief engineer of the Atlantic Coast Line in January, 1947.

Allen W. McCulloch, who has been head of the Portland, Ore., regional office of the U. S. soil conservation service for four years, has been appointed chief engineer of the Farm Improvement Co., farmer service organization, at Denver, Colo. He will specialize in general irrigation engineering work.

Edward H. Augsbach, engineer and construction superintendent, formerly with Albert Kahn, Inc., has joined Britsch & Manger, Toledo, Ohio, architectural firm, as has also **Thaddeus B. Hurd,** recently with the Great Lakes Steel Corp., in housing research and development.

L. Richmond recently resigned as the engineer for the Butler Construction Co., highway contractors. He has opened an office in Grand Forks, N. D., and will engage in consulting engineering work, on highway construction, airports and municipal projects. A highway engineer from 1933 to 1943, Mr. Richmond has been employed in the last six years as engineer and superintendent for the Butler Co. He was graduated from the University of North Dakota at Grand Forks in 1933.

Newly appointed officials of the Ohio Department of Highways are (standing, left to right): Richard Orth, chief engineer of bridges; S. O. Linzell, assistant director and chief engineer; L. Wismar, chief engineer of construction; Wm. C. Rhodes, executive secretary; G. J. Thormyer, acting chief engineer of location and design; L. F. Schaeublin, chief engineer of maintenance; and T. J. Kauer, director (seated).

Methods of expediting West Virginia's $50,000,000 secondary road construction program were discussed recently by a permanent panel of State Road Commission engineers and representatives of the West Virginia Contractors' Association. Pictured are, left to right, P. J. Walsh, J. P. Keeley and A. H. Ritchie of the association; L. B. White of the commission; Leo Vecellio of the association; L. C. Madden and George W. McAlpin of the commission; Paul Feather of the association, and C. H. Boggs and M. L. O'Neale of the commission.

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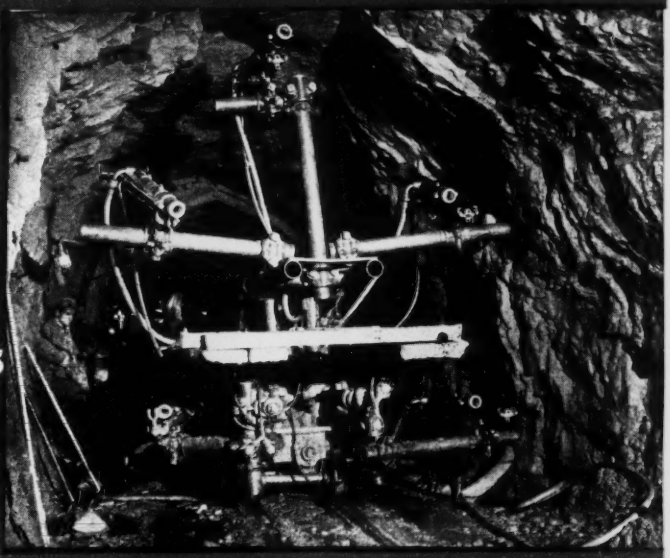

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ENGINEERING SCHOOLS

Humanities for Engineers

James R. Killian, Jr., inducted on April 2 as the tenth president of the Massachusetts Institute of Technology, believes that engineers, scientists and other technically trained men should have a solid grasp of the humanities. In other words, he is of the opinion that greater emphasis must be placed on general education in the curricula of professional schools. He believes that a well-educated engineer should be adequately grounded in the liberal arts as well as in the techniques of the engineering profession.

M.I.T. now has a number of courses in the field of general education. This was favorably commented upon by Winston Churchill in his March 31 speech at M.I.T. Students are required to take 20 percent of their work in the social studies. In the freshman year students must take a course in English that stresses practical writing; sophomores take a course in American and world history; in the third year, economic principles, labor relations or psychology; in the senior year, there are four options—international relations, music and fine arts, a "great books" course, or a course on the history of ideas.

Motor Truck Research

Research students at the University of Wisconsin are computing and evaluating data obtained last winter in experiments on the traction and operation of trucks in low temperature conditions.

Three university research trucks, equipped with measuring and recording apparatus, were used in the experiments. In the pulling experiment the test truck pulled against a dynamometer which measured the pounds of pull exerted before and after the wheels began spinning on the ice. Other tests were run to determine how much towed load a given truck could pull on ice, and the grade it could ascend. Braking and acceleration tests also were made.

New Courses

A new division of engineering sciences that will unite the present engineering faculty with that of the division of arts and sciences at Harvard University has been announced by President James B. Conant. It will offer an expanded program of research and education in applied science and engineering under the direction of Prof. Gordon M. Fair, present dean of the graduate school of engineering. The change is proposed to bring into closer relation the engineering sciences and mathematics and physics.

The twelfth annual short course for water and sewerage works personnel will be held at Louisiana State University, Baton Rouge, June 22-24. It is sponsored by the General Extension Division of the university, in cooperation with the Louisiana State Board of Health and the Louisiana Conference on Water Supply and Sewerage.

Faculty News

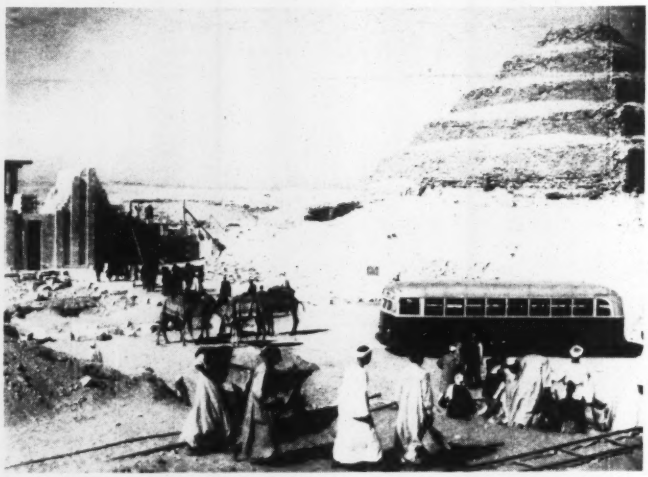
Ralph E. Fadum, of Purdue University, has been named head of the department of civil engineering at North Carolina State College, effective July 1. He succeeds C. L. Mann, who retired last fall after 50 years on the faculty. Fadum has been professor of soil mechanics at Purdue and formerly was on the engineering faculty at Harvard. He has had long experience in foundation and hydraulic engineering.

Associate Prof. Howard W. Emmons has been appointed Gordon McKay professor of engineering science at Harvard University. He is an authority on fluid mechanics and assisted in the design and construction of the U. S. Army's supersonic wind tunnel. He is a graduate of Stevens Institute of Technology, and was an assistant professor at the University of Pennsylvania.

Clarkson H. Oglesby has been promoted to associate professor in civil engineering at Stanford University.

Wm. T. Ingram has been appointed associate professor of public health engineering at the New York University college of engineering, as of May 1. He has been engineering field associate for the American Public Health Association for the last two and a half years, engaged in studies of public health engineering administration and sanitary training facilities in the United States.

Harvey R. Wilke has become associate professor of sanitary engineering at Purdue University. A graduate of the University of Missouri, he had nearly five years experience teaching water supply work at the Army Corps of Engineers school at Fort Belvoir, Va. Harold C. Woodsum Jr., who studied at Yale, Georgia Tech and University of Pittsburgh, has joined the Purdue staff as an instructor in hydraulics.



DESERT CLASSROOM—At the University of Cairo members of the class in Egyptology are loaded on buses, taken past the pyramids of Cheops and Chrephren to their outdoor classroom at Sakkara, 25 miles east of Cairo, on the edge of the desert. There in the shadow of the Step Pyramid, the world's oldest monument, built 5,000 years ago, they watch the restoration work under the supervision of the government. The excavation work is being centered on the tomb of Snefru, first king of the 4th Dynasty and the father of Cheops. The restoration work on the main entrance to the Temple of Zoser is nearly completed. The modern American bus is in striking contrast to the ancient pyramid. (Wide World Photo.)

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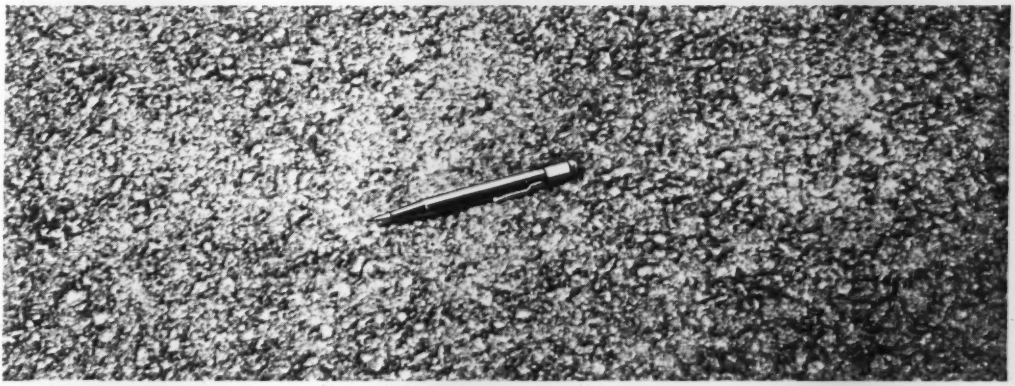

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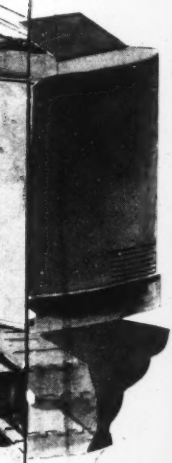

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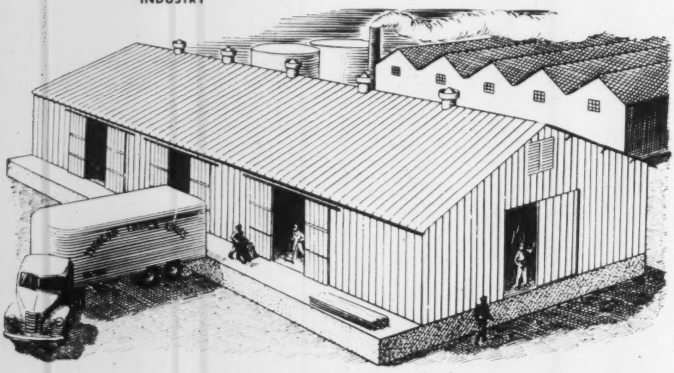

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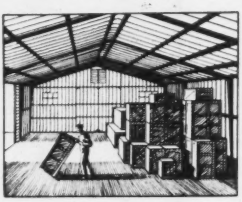

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Elections and Activities

Home Builders Association of Fort Wayne, Ind., has elected Kurt Hanke president, and Dale Fisher secretary-treasurer. George A. Poag will continue as executive director.

M. L. Hall, president of Meridian Construction Co., Indianapolis, Ind., has been elected president of Marion County Residential Builders, Inc., for 1949. Others elected were J. Harry Miles, Jr., vice-president; Henry F. Ostrom, treasurer, and C. A. Wacker, secretary. New directors, A. H. M. Graves, Fred C. Tucker, Mr. Miles, Mr. Ostrom, Chris J. Greiner, and Paul Pike.

Ralph T. Burson, Newark, has been elected president of the Central Ohio chapter of the Ohio Society of Professional Engineers. Others elected were Bruno Romano, Lancaster, vice-president; Roy A. Corby, Newark, secretary-treasurer; and W. F. Robb, Mt. Vernon, C. W. Irwin, Newark, and W. H. Fouse, Lancaster, directors.

Robert E. Jenkins has been elected president of the Ohio Valley chapter of the Ohio Society of Professional Engineers, comprising Gallia, Jackson, and Lawrence counties.

New officers of the San Jacinto chapter, Texas Society of Professional Engineers, Houston, Tex., are Noah E. Hull, president; Robt. M. Hutchinson, first vice-president; W. J. Van London, second vice-president; and F. C. Brandt, secretary-treasurer.

Life memberships have been granted to Jas. W. Martin and John H. Glander by the Alabama section of the ASCE.

Toledo, Ohio, Association of Home Builders has elected David A. Spitznaugle, president; Raynor B. Pyle, vice-president; Lee Shrewsbury, secretary; Fred Kuehn, treasurer; Clarence J. Nopper and John Witte, directors. Dale C. Mehring is retiring president.

Life memberships have been awarded to Brig. General Gilbert A. Youngberg, Jacksonville; Lieut. Col. Edward H. Chisolm, Bradenton, and Lieut. Col. Leander Larson of Lakeland, in the American Society of Civil Engineers, Florida Section.

Earl Peterson has been elected pres-

ident of the San Diego, Calif., chapter of the Building Contractors Association of California. Other officers elected at the recent annual meeting were Hugh B. Greer, vice-president; Clifford Boren, secretary and Don McKillop, treasurer.

At the annual meeting of the St. John, N. B., branch of the Engineering Institute of Canada, decision was made to hold several of the monthly meetings during 1949, in Woodstock and Fredericton, N. B. Annual reports were submitted by the retiring president, T. C. MacNabb, and retiring secretary-treasurer, J. H. MacLure. News officers for 1949: H. P. Lingley, president or chairman; W. M. Brenan, secretary-treasurer; D. O. Turnbull, vice-president; J. Reed and W. A. Williamson, additional directors.

Harry Grote has been elected president of the Fort Wayne, Ind., Associated Building Contractors, succeeding William Cupp. Other officers: William Schenkel, jr., first vice-president; Paul Crewe, second vice-president; Al Weimann, treasurer. Jerry Werstein is secretary.

New officers of the San Francisco section, ASCE, are Austin W. Earl, consulting engineer, president; Prof. C. T. Wiskocil, University of California, junior vice-president; and R. D. Dewell, civil engineer, secretary-treasurer. Glenn B. Woodruff, consulting engineer, automatically moves from junior to senior vice-president.

John H. DeWitt, Jr., was elected president of the Engineering Association of Nashville, Tenn. Other officers elected at the meeting were: Gerald Gimre, vice-president; Joe L. Booker, secretary - treasurer; and Charles W. Hawkins and A. R. Jessup, directors.

The Northwestern Wisconsin chapter of the Wisconsin Society of Professional Engineers organized on Feb. 9 and elected Neal W. Bartholomew, city engineer and director of public works of Eau Claire, president, William Gohn, Eau Claire, secretary-treasurer; and Robert Boyd, Eau Claire, C. R. Donaldson, Menomonie, and Owen Ayres, Eau Claire, directors.

William Eipel, member of the structural engineering firm of Tuck & Eipel, has been elected president of The New York Association of Consulting Engineers. He succeeds Darl Hunt, of Krey & Hunt. Other officers: John F. Hennessy of Syska & Hennessy, vice-president; Harry Bond, treasurer; W. Donald Christie, secretary.

Robert B. McKenna was recently elected president of the Massachusetts Highway Association. Other officers: vice-presidents, George H. Delano, Boston, and Parker Holbrook, Winchester; secretary, Albert E. Casey, Stoneham; treasurer, Daniel G. Lacey, Brookline; Directors, Lester C. Hollis, Needham, Frank Chase, Boston, Harold J. Duffy, Boston, Elmer Chadler, Plymouth, and Thomas J. Kelly, Weymouth.

The California Society of Professional Engineers has been presented with a charter by the national organization. Officers are: Earl N. Holm, Sacramento, president; R. R. Walker, Culver City, first vice-president; Lawrence Adams, Modesto, second vice-president; John L. Trebilock, San Leandro, secretary; B. E. Travis, Sacramento, assistant secretary; H. J. Fitzgerald, San Francisco, treasurer. The board of directors, in addition to the officers, includes Fritz Zapf, San Diego; Joseph E. Bonadiman, Los Angeles, and Oliver Deatsch, Modesto.

At the annual meeting of the Association of Asphalt Paving Technologists held in Detroit, Mich., recently, the following officers were elected: President, Walter H. Flood, Chicago; 1st vice-president, J. R. Benson, Denver, Colo.; 2nd vice-president, Norman W. McLeod, Toronto, Ont.; Directors, Arnold J. Hoiberg, El Dorado, and John H. Goshorn, Columbus, Ohio. A testimonial dinner was given in honor of Dean Walter J. Emmons of the Civil Engineering Department of the University of Michigan, who served for fifteen years as secretary-treasurer of the association. The present Secretary-Treasurer is Ward K. Parr, Ann Arbor, Mich.

MAJOR MEETINGS

American Society of Civil Engineers, Biltmore Hotel, Oklahoma City, Okla., April 20-23.

American Geophysical Union, U. S. National Museum and National Academy of Sciences Auditorium, Washington, D. C., April 20-22.

American Wood Preservers' Association, Jefferson Hotel, St. Louis, Mo., April 26-28.

First International Civil Engineering Congress, Mexico City, Mexico, April 30-May 7.

American Road Builders' Assn., Southeastern States Conference, General Oglethorpe Hotel, Savannah, Ga., May 11-13.

Society for Experimental Stress Analysis, Hotel Statler, Detroit, Mich., May 19-21.

American Water Works Association, Stevens Hotel, Chicago, Ill., May 30-June 3.

Manufacturers' Publications

Waste Treatment—"Waste Treatment to Comply with Stream Pollution Control Regulations" is the title of a new bulletin which describes briefly the general problems involved and then discusses the principal treatment methods. Actual case studies are reported.—INFILCO, INC., 325 WEST 25TH PLACE, CHICAGO 16, ILL.

Apron and Reciprocating Feeders—8-page bulletin gives detailed descriptions and specifications on the complete line of Cedarapids feeders, showing their operation and use in typical installation photos and diagrams. Feeders for use with all types of material handling and bituminous mixing plants are included. Apron type feeders for use with crushers, or under bins to feed on to a conveyor—in a range of sizes to handle any size feed, including big rock. Some will handle anything fed by large shovels, draglines or dump-type units from a ramp.—IOWA MANUFACTURING CO., CEDAR RAPIDS, IOWA.

Welding Control—4-page bulletin describes operating features of improved automatic start-stop d.c. welding control incorporating latest changes in design. Interesting graphical presentation demonstrates power saving characteristics of this equipment. Contains complete specifications and ordering information.—DV WELDING CONTROLS, OAKLAND 11, CALIF.

One-Yard Dragline—A new 16-page bulletin (X-11-1) covering the P&H Model 455-A, with pages of striking on-the-job pictures, describes and illustrates all the added value features of this machine. This model is specially designed for crane, clamshell and dragline service.—HARNISCHFEGER CORP., EXCAVATOR DIVISION, 4400 W. NATIONAL AVE., MILWAUKEE 14, WIS.

Multiplex Pumps—SD and SDO multiplex pumps—centrifugal, multistage, split case, volute type, designed for medium and high-pressure service—are described in a 16-page illustrated booklet. Both types are made as two, four, six and eight-stage units with heads to 2,000 ft. and capacities from 100 to 4,000 gpm.—BYRON JACKSON CO. PUMP DIVISION, TERMINAL ANNEX BOX 2017, LOS ANGELES 54, CALIF.

NEW PRODUCTS

Truck-Mounted Loader

For handling loose materials such as sand and gravel, stone, coal, earth and snow at a rate of 3-5 cu. yd. per min., truck-mounted loader is equipped with hydraulic controls for one-man operation. It has 29 20-in. malleable iron buckets and spiral feeders and can be mounted on any standard 1½ or 2-ton truck. Truck engine provides power through heavy-duty power take-off. Safety clutch prevents breakage when buckets strike obstruction. Discharge conveyor can be turned to any desired position within 180 deg. Above is the fleet of these loaders used by W. Va. road commission.—Eagle Crusher Co., Inc., Galion, Ohio.

Self-priming Pump

There has been developed a centrifugal self-priming pump which operates as a positive air pump during the priming operation and subsequently as a regular centrifugal pump without any recirculation or loss of efficiency. The illustration above shows the operation of the pump during priming. No valves are required. The applications of this pump on construction and sanitary work include—dewatering excavations and cofferdams, well point drainage, pumping out sumps, pumping from shallow wells, and for cleaning out swimming pools.—Lawrence Machine & Pump Corp., 770 Lafayette Ave., Buffalo, N. Y.

Tough Work Gloves

Built like a tire, with tough natural-rubber chemically welded to a strong fabric base, "Grab-it" construction workers' gloves are said to grip better and outwear several pairs of leather-palm or heavy canvas gloves when handling rough, sharp or abrasive materials such as lumber, tile, concrete block, steel, cement bags, etc. The rough-surfaced, liquid-proof rubber coating gives a firm hold on smooth or wet materials and an easy, flexible grip at all times.—Edmont Mfg. Co., Coshocton, Ohio.

Disinfectant Cement

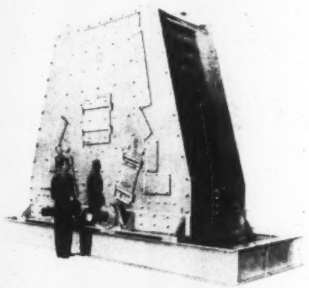
Concrete made with this cement becomes anti-bacterial. While bacteria are killed on contact, the concrete is non-toxic to animals or humans. This new product should be useful for construction in dairies, public restrooms, locker rooms and other places where bacteria thrive. Manufacturer says the product is mixed and used exactly the same way as normal portland cement and has the same physical attributes.—North American Cement Corp., 41 E. 42nd St., New York 17, N. Y.

Folding Rule

White enameled 6-ft. zigzag folding rule weighing 3⅛ oz. is made of a special hardened and tempered alloy steel and can be bent and twisted and yet will always spring back to normal shape. It can be used to take inside measurements, measures pipes and rounds and also extends rigidly for out-of-reach measurements. It does not have to be closed each time it is used to prevent breakage.—Durall Tool Corp., 117 Woodworth Ave., Yonkers, N. Y.

Diesel Fuel Additive

Gumout is the name of a new additive for diesel fuel and heating oils, designed to dissolve gum and sludge, thus cleaning the fuel lines and injection system. It maintains a continuous free flow of fuel to the engine and prevents clogging of jets and burners.—Pennsylvania Refining Co., 2686 Lisbon Road, Cleveland 4, Ohio.

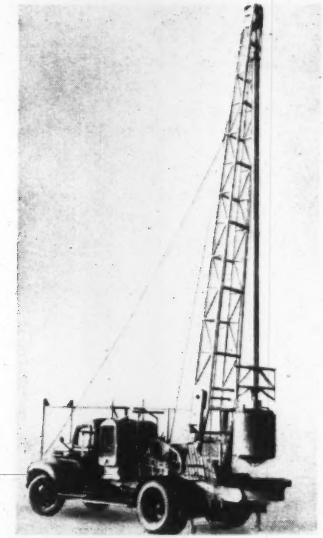


Impact Stone Crusher

Quantity production has begun on a large impact stone crusher—the Model 5050 Double Impeller Breaker. It can take stone up to 50 in. and reduce it to aggregate in one operation. Weighing nearly 54 tons and standing 14 ft. high, it will produce aggregate in two sizes—minus 8 in. and minus 3½ in.—New Holland Mfg. Co., Mountville, Pa.

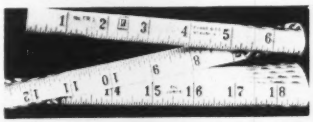
Small Trench Digger

Parsons Model 80 "Trenchmobile" is a small, sturdy, self-contained, utility-sized trench digging machine. Mounted on four rubber-tired wheels, unit powered by four-cylinder, air-cooled 24-hp. engine has maximum digging depth of 48 in. and digging width of 5-7½ in. Road travel speeds range up to 18½ mph. Boom of box type may be raised or lowered independently while operations continue. All parts of bucket chain are of heat-treated alloy steel. Weight of machine is 5,000 lb.—Parsons Co. (Koehring subsidiary), Newton, Iowa.



Earth Boring Machine

This machine can drill holes 10 in. to 72 in. dia. 200 ft. deep. Built as a unit on skids which can be mounted easily on any truck chassis one and one-half tons or larger, the machine is recommended for sewage disposal and water well drilling, soil testing, and for drilling pier holes and filled footings. —California Welding & Blacksmith Shop, Inc., 7222 East Slauson Ave., Los Angeles 22, Calif.



6-ft Folding Rule

This 6-ft. folding rule is made of a pure white material known as "Evanex". It can be bowed tip to tip without breaking. Regardless of climate, it will not shrink, stretch, warp or split.—Evans & Co., Newark, N. J.

Asphalt Mixer

"Multi-Pug" asphalt mixer has capacity of 1 ton per minute and weighs 1000 lb. Proportioning of aggregate and asphalt is volumetrically controlled. Powered by two-cylinder 14-hp. Wisconsin air-cooled engine. Asphalt pump of positive displacement type has 20 g.p.m. capacity. Can be used as a stationary plant or adapted for use as a mix-spread unit to which aggregate and asphalt are fed and proportioned from dump truck.—K. E. McConnaughay, West Lafayette, Ind.

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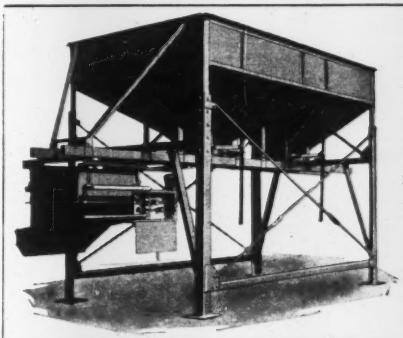

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CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded—First Section

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager — *J. A. MAHONEY, Reports* — *M. R. ROESSLER, Statistics*

WATER SUPPLY

BIDS ASKED

April 29

Neb., Tecumseh—City, WW imprvs, $164,157. Hennungston Eng. Co., Standard Oil Bldg., Omaha, engr.

May 12

Ont., Hamilton—J. F. Berry, city clk., City Hall, 1 story, basmt., 82x159 ft, rein.-con. steel, brick pump station, Beach Waterworks plant. Approx. $100,000. W. L. McFaul, c/o owner, engr., CD 3/3/48—ENR 3/11/48.

LOW BIDDERS

N. M., Raton—City, Apr. 5, water distr. sys. addns., from Louis Pinello, Mountain Rd., Colorado Springs, Colo., $12,093. CD 3/14—ENR 3/17.

Ore., Corvallis—City, City Hall, rejected bids Mar. 21, water treatment plant, L. B. $324,912. CD 3/29—ENR 3/31, under LB.

Pa., Phila.—Dpt. P. Wks., City Hall Annex, Apr. 6, steel tank Northeast Treatment Works, SE 133 NE, from Virginia Eng. Co., 80 W. 29 St., Newport News, Va., $65,870. CD 3/30.

Tex., Houston—Harris County Water Control & Imprvt. Dist. 11, 12761 Market St. Rd., C. L. Hetley, pres., Apr. 9, WW imprvs., extns.; Greens Bayou Dist. from The Brown Co., 5105 L St., Houston, $96,100.

Tex., Houston—City, M. H. Westerman, secy., Apr. 6, new building at Northeast Water Pump Station and yard piping in area, from Fisher Constr. Co., 4711 Greeley Ave., $461,725. Est. $493,000. CD 3/15—ENR 3/17.

Tex., Levelland—City, Ray Watson, mayor, cancelled bids to have been opened Apr. 28, WW sys. extens., imprvs., $200,000. CD 4/8—ENR 4/14.

Tex., Woodsboro—City, Apr. 7, WW sys. extens., imprvs., and sanitary sewers, from T. H. Lee, Texas Theatre Bldg., San Antonio, $47,814. Est. $55,000. CD 3/28—ENR 3/31.

Va., Warsaw—City, Apr. 6, water supply and distr. sys., from E. G. Bowker, 1705 Brook Rd., Richmond, $32,396. CD 3/31.

CONTRACTS AWARDED

Mo., Conway—City, City Hall, well and pump, to Shelton Bros., Ozark; distr. sys., storage facilities, etc., to Thomas & Blume, Rolla. Est. $65,000. John B. Heagler, 8749 Litzinger Rd., St. Louis, Zone 17, engr.

Mo., Marble Hill—City, Eugene Taylor, clk., City Hall, labor only, 18,150 ft, 3-to 6-in. water distr. lines, 25 fire hydrants, 55,000 gal. rein.-con. ground storage reservoir, deep well, etc., to Walden Well Constr. Co., Cape Girardeau. Est. $61,000. John B. Heagler, 8749 Litzinger Rd., St. Louis, Zone 17, engr.

Mo., Marshfield—City, City Hall, well pump, to Layne-Western Co., 1610 W. 39 St., Kansas City, Mo. distr. sys. and exten. mains, to Thomas & Blume, Rolla. Est. $60,000. John B. Heagler, 8749 Litzinger Rd., St. Louis, Zone 17, engr. CD 11/21/47—ENR 11/27/47.

Mont., Brady—Montana State Water Conservation Bd., Helena, water supply plant, incl. steel welded tank and distr. sys., to Robertson & Cave, 8 Ave. N. W. and River St., Great Falls, $79,665. Bids 4/7.

Tex., Dallas—Homer W. Snowden, 6336 Richmond St., cl. water lines, facilities, to C. H. Burns & Son Constr. Co., c/o Koch & Fowler, engrs., Gr. National Life Bldg., $65,000.

Tex., Garland—D & B Pump Div., EMSCO Derrick & Equipment Co., 7626 Denton Dr., Dallas, water and sewer lines. Owner builds. $65,000.

SEWERS, WASTE DISPOSAL

BIDS ASKED

April 25

N. J., Pennsauken—Pennsauken Twp. Comm., Pennsauken, sanitary sewers various locations, Contr. 3, Approx. $50,000. J. C. Remington, 503 Market St., Camden, engr. CD 6/21—ENR 7/7.

April 28

Pa., Phila.—Dpt. P. Wks., City Hall Annex, storm relief sewer Wingohocking St. Approx. $150,000. A. Zane Hoffman, c/o owner, ch. engr. CD 12/1/43.

April 29

Tex., Knox City—City, C. C. Hoge, mayor, sa. to 12-in. sanitary sewer line exten., small lift station, $50,000. Joe E. Ward, 545 Nacol Bldg., Wichita Falls, engrs.

May 2

Calif., Quincy—Quincy Sanitary Dist., King Bldg., Quincy, sewerage sys. imprvs. Approx. $50,000. Plans deposit $10. Clyde C. Kennedy, 604 Mission St., San Francisco, engr. CD 10/7/43—ENR 10/28.

N. J., Pennsauken—Pennsauken Twp. Comm., Pennsauken, sanitary sewers various locations, Contr. 4, Approx. $50,000. J. C. Remington, 503 Market St., Camden, engr. CD 6/21—ENR 7/7.

Va., Manassas—Town Council, sewage treatment plant, Plans deposit $25. Johnson & Williams, 1225 Nineteenth St. N. W., Wash., D. C., engrs.

May 3

Mo., Normandy (St. Louis, Zone 21, P. O.)—Normandy Sanitary Sewer Dist., St. Louis Co., c/o C. J. Kloske, pres. Bd. Trustees, 7629 Natural Bridge Rd., Normandy, St. Louis, Zone 21, 2,480 lin. ft. S and 10 in sewers, 13 standard manholes, 45 lin. ft. addnl. vertical depth manhole, sanitary sewer extens., appurtenances. Plans deposit $10. Russell & Axon, 408 Olive St., St. Louis, Zone 2, engrs. CD 8 9/46—ENR 8/22/46.

May 4

La., New Orleans—Sewerage & Water Bd., 526 Carondelet St., concrete lined and covered canal. Plans deposit $5.

May 13

Ill., East St. Louis—East Side Levee & Sanitary Dist., Dan Foley, pres., 628A Missouri Ave., Proj. 15, Sect. A, storm water drainage facilities, for village of Nameoki and vicinity, incl. rein.-con. pipe sewer from outlet drainage channel along Victory Dr., lateral pipe sewers, Nameoki Rd., inlets, manholes, etc., Proj. 15, Sect. B, storm water drainage facilities, village of Nameoki and Granite City, incl. double rein.-con. pipe trunk sewer approx. 4,110 ft. from outlet drainage channel and along Fehling Rd., approx. 1,835 lin. ft. 30 and 48 in. pipe sewer, Fehling Rd., east of Oregon Ave. and in St. Pauls St., inlets, manholes, etc., Stephen Kernan, ch. engr. CD 1/31/46—ENR 2/21/46.

LOW BIDDERS

Md., Towson—Baltimore Co., Courthouse, Apr. 8, storm drains and sanitary sewers in Lochearn Dist., Contr. 157 D & S, from Utilities Constr. Co., Lutherville, $255,530. CD 3/24—ENR 3/31.

Okla., Oklahoma City—City, City Hall, Mar. 29, lift station by pass and outfall sewer for Deep Fork Relief Sewer, from Earl W. Basker & Co., Bethany, $61,890. Est. $61,383. Benham Eng. Co., American Natl. Bank, Zone 2, engrs.

Pa., Harrisburg—Swatara Twp. Auth., c/o I. M. Grace, engr., 1001 Front St., Apr. 4, sanitary sewers, appurtenances in Lawton-Oakleigh Sewer Dist., Swatara Twp., from Freeman & Basore, 2754 Agate St., $161,638. CD 3/29—ENR 3/31.

Pa., Lemoyne—Lemoyne Boro, Apr. 6, sewage treatment plant, from R. M. Luff Constr. Co., 251 Roslyn Ave., Glenside, $156,800; sewerage sys. from Conduit & Foundation Corp., 770 S. Schuylkill Ave., Phila., $727,504. CD 3/10—ENR 3/17.

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, railroad cuts $25,000; other public works $50,000; industrial buildings $68,000; other buildings $250,000.

Classes of Construction

(Name in order of Listing)

Water Supply	Latin America
Sewers, Waste Disposal	Public Buildings
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork, Waterways	

* Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

✦	Federal Government
●	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

S. D., Mobridge—City, Apr. 4, storm sewers, from Nodland & Eby, Starbuck, Minn., $149,161. CD 2/23.

Tex., Levelland—City, Ray Watson, mayor, cancelled bids to have been opened Apr. 28, sanitary sewerage sys. extens., imprvs. $300,000. CD 4/8—ENR 4/14.

Tex., San Antonio—City, James W. Knight, street comr., rejected bids Mar. 24, East Side Sanitary Sewer Line, Sect. 2, L. B. $188,567. CD 3/29—ENR 3/31, under LB.

Tex., San Antonio—City, James W. Knight, street comr., rejected bids Mar. 31, Salado Creek Sanitary Sewer Main, Sect. 3, 19,700 lin. ft. 36 in. pipe, L. B. $238,179. CD 3/15—ENR 3/17.

CONTRACTS AWARDED

Ill., Belleville—City, Carl Siegel, clk., City Hall, general contract sewage treatment plant addns., imprvs., incl. auxiliaries, appurtenances, precast concrete digester tank, to Bauer Constr. Co., 424 Lebanon Ave., $639,148. Bids 4/5, awarded 4/8.

●Tex., Houston—M. H. Westerman, city secy., retaining Southside Sewerage Disposal Plant, incl. sludge plant, to Rust Eng. Co., M & M Bldg., $1,041,081. Bids 3/30. CD 4/6—ENR 4/14, under LB.

BRIDGES

BIDS ASKED

May 10

✦California—U. S. Eng., Wright Bldg., Sacramento, bridge and weir for Pine Flats Proj., near Piedro, Spec. 1341. Extended date.

May 17

Que., Montreal—Exec. Com., City Hall, viaduct over Canadian Pacific Ry. Tracks, St. Catherine St. E. $900,000. Plans deposit $50. H. A. Gibeau, city engr. CD 3/3/48—ENR 3/18/48.

CONTRACTS AWARDED

Wash., Seattle—King Co., County-City Bldg., Zone 4, rein.-con. bridge on 15 Ave. N. E., to S. S. Mullen Constr. Co., 3 Ave. N. and Roy St., $132,058. Est. $150,000. D. L. Evans, co. engr. Bids 4/4.

Ont., Toronto—Municipality, subway, Crescent Rd., to J. Maguire Contg. Co. Ltd., 4 Birch Ave., $279,578. Bids 4/5. CD 3/23—ENR 3/31.

STREETS AND ROADS

BIDS ASKED

April 26

✦N. Y., St. Albans—Pub. Wks. Office, Third Naval Dist., Hudson Terminal Bldg., 50 Church St., New York, Zone 7, repairing Fourth U. S. Naval Hospital, Spec. 20748. Plans deposit $10.

May 3

✦Virginia—U. S. Eng., foot of Front St., Norfolk, access highway, right bank, Sects. A and B, Phipott Reservoir Proj., Smith River, Serial No. Eng-44-110-49-174.

LOW BIDDERS

Md., Baltimore—Mayor & City Council, City Hall, rejected bids c. conc. street paving, Contr. 362, LB. $85,074. CD 4/5—ENR 4/7, under LB.

●Pennsylvania—Pennsylvania Turnpike Comm., H. N. 4 St., Harrisburg, Apr. 13, grading, drainage, structures, paving 4.68 mi. Turnpike Sect. 93-A, part of the Philadelphia Exten. in Lower Swatara and Londonderry Twps., Dauphin Co., from C. J. Langenfelder, 8427 Pulaski Hy., Baltimore, Md., $2,509,828. CD 3/23—ENR 3/31.

Pa., Phila.—Dpt. P. Wks., City Hall Annex, Apr. 6, paving and resurf. various streets, Schedule A-2 from General Asphalt Paving Co., 8851 Rising Sun Ave., $229,757***paving and resurf. various streets, Schedule A-3, from Warren Paving & Constr. Co., 1924 Arch St., $178,005. Dudley T. Corning, Highways chief.

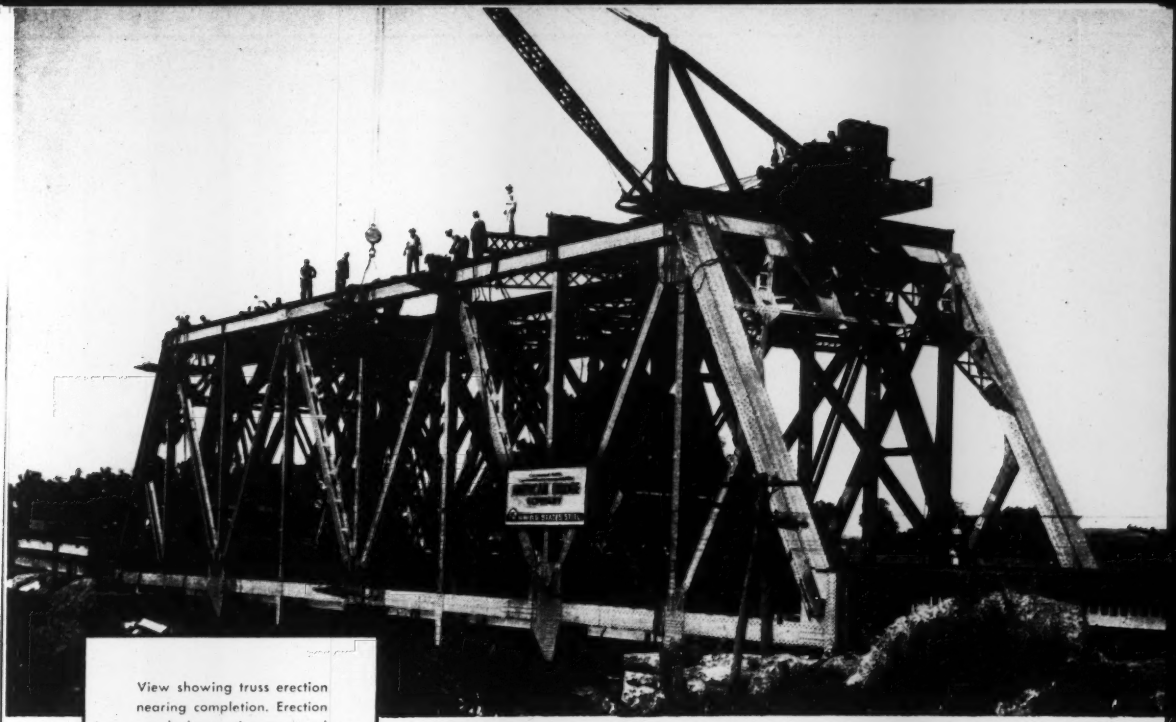
Tex., Beaumont—City, Apr. 5, asph. street paving, in residential area, from Trott & Thompson, Inc., Beaumont, $107,799. CD 3/16—ENR 3/24.

Tex., Galveston—Galveston Co., Courthouse, Feb. 24, community road constr. La Marque and Camp Wallace Rd. areas, from Gulf Bitulithic Co., 2820 Polk St., Houston, $110,860. CD 4/8—ENR 4/14, under LB.

Tex., Houston—City, M. H. Westerman, secy., Apr. 6, c. conc. asph. surf. Buffalo Dr., Wandell Dr., to Lawndale St., from Brown & Root, Inc., Box 3, $125,089.

Tex., Odessa—Ector Co., Odessa, Apr. 4, 18.8 mi. road constr. and paving, from Collins Constr. Co., 2821 E. 19 St., Austin, $203,943. CD 3/28.

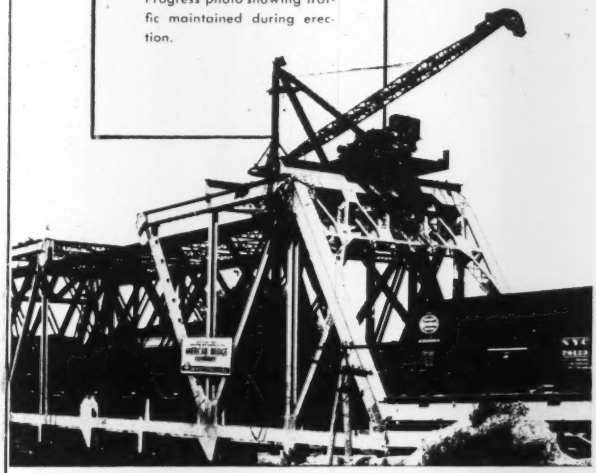
(Continued on page 18)



View showing truss erection nearing completion. Erection was by locomotive crane and stiffleg derrick. Closure at center, top chord section was made by jacking at near end of trusses.

Bridge designed for Cooper's E-65 loading to current AREA Specifications. Estimated weight 600 tons.

Progress photo showing traffic maintained during erection.



New bridge "swallows" old

Rail traffic was uninterrupted when American Bridge Company erected this 190′ double-track truss span around the old span across the Boyer River near Arion, Iowa.

In addition to designing, fabricating and erecting this and two other nearby bridges for Chicago and North Western Railway Company, American Bridge removed the three old spans.

We cite this project as further evidence that for fabrication and erection efficiently done, you can depend on American Bridge.

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UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

AMERICAN BRIDGE

UNITED STATES STEEL

(Continued from page 46)

CONTRACTS AWARDED

California—State Div. Hys., State Bldg., Los Angeles, plant mix surf. 4 mi. between Long Point and 13 mi. west of Running Springs, San Bernardino Co., to Fredericksen & Kasler, 212 13 St., Sacramento, **$779,094.** Bids 3/31. CD 4/12—ENR 4/14, under LB.

California—State Div. Hys., Sacramento, grading 3.8 mi. between 0.5 mi. south of Stone Lagoon Summit and 1 mi. south of Orick, Humboldt Co., to Piombo Constr. Co., 1571 Turk St., San Francisco, **$668,708.** CD 3/29—ENR 3/31, under LB.

Minn., Austin—City, J. H. Weiland, clk., City Hall, sidewalks, curb and gutter, to Nelson & Peterson, 1902 W. Michigan St., Duluth, **$65,774.** Bids 4/1.

New Mexico—State Hy. Dpt., Santa Fe, bit. surf., asph. and stone chips sealing, etc., 8.715 mi. Rt. 1 between Loving and Potash Mines, FAP. No. S.85(4), Eddy Co., to O. D. Cowart, Box 513, Silver City, **$147,077;** bit. surf., asph. and stone chips sealing, etc., 2.625 mi. U.S. Hy., Route 66, in Tucumcari, FAP Nos UI 5 (3) and UI 127 (10), Quay Co., to Lee Moor Contg. Co., 205 Bassett Tower, El Paso, Tex., **$301,697.** Bids 4/8. CD 3/30.

●**New York**—Dpt. P. Wks., Bertram Tallamy, supt., Alfred E. Smith State Office Bldg., Albany, paving 6.31 mi. Routes 23-A, 9-W and Catskill Thruway, near Catskill, Greene Co., to The Lane Constr. Corp., 37 Colony St., Meriden, **$1,336,522.** Bids 3/1. CD 3/14—ENR 3/17, under LB.

Tex., Baird—Callahan Co., Courthouse, Baird, road imprvs. Precinct 4, own forces. **$70,000.**

Tex., Garland—D & B Pump Div., EMSCO Derrick & Equipment Co., 7626 Denton Dr., Dallas, roads and streets in plant area, owner builds. Approx. **$55,000.**

Tex., McCamey—Upton Co., c/o judge, Courthouse, imprv. roads, own forces. **$65,000.**

Tex., Matagorda—Matagorda Co., Courthouse, road imprvs. in Dist. 12, force account. Approx. **$50,000.**

Tex., San Antonio—H. B. Zachry Co., P.O. Box 1570, 4 lane asph. paved road, owner builds. **$90,000.**

Tex., Snyder—Scurry Co., Courthouse, Snyder, road grading, surfacing, own forces. **$69,000.**

Ont., St. Catherines—Municipality, conc. pavements, curbs, Ontario Constr. Co., Ltd., Box 36, St. Catherines. Est. **$75,000.** Bids 4/4. CD 3/22—ENR 3/24.

EARTHWORK, WATERWAYS

BIDS ASKED

April 25

Alta., Cardston—Prairie Farm Rehabilitation Bd., engrs., 910 McCallum Hill Bldg., Regina, Sask., rein. con. diversion structure, appurtenant work, Belly River, for Dominion Govt., Dpt. Agriculture, Ottawa, Ont., Plans deposit $10. CD 1/29/45—ENR 2/22/45.

April 26

†Illinois—U. S. Eng., 286 U. S. Courthouse and Custom House, St. Louis, 1 Mo., levee imprvs. and road surfacing on Levee Proj. Item 1-A (1), Harrisonville and Ivy Landing Drainage and Levee Dist., Monroe Co., Inv. No. Eng-23-065-49-119. Extended date. CD 3/25—ENR 3/31.

†Minn., Minneapolis—U. S. Eng., 1217 U. S. Post Office and Customhouse, St. Paul, Zone 3, lower approach dredging Stage 2, Lower Lock and Dam, St. Anthony Falls, Mississippi River, Serial No. Eng-21-018-49-82. CD 3/29—ENR 3/31.

April 27

†West Virginia—U. S. Eng., Madison Ave. and 8 St. W., Huntington, furnishing, del. crest gates, incl. frames and operating machinery, trash chute gates and bulkheads for Bluestone Dam, Bluestone Reservoir Proj., New River, Serial No. Eng-46-022-49-191. Extended date. CD 2/18—ENR 3/10.

N. S., Neils Harbour—J. M. Somerville, secy., c/o Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., breakwater repairs. Approx. **$100,000.** Plans deposit $20. R. Blais, c/o owner, engr.

May 3

†California—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point, of Herculite hollow metal doors and fire door for Tracy Pumping Plant, Central Valley Proj., Spec. 2640. L. N. McClellan, chf. engr.

May 10

†California—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, Los Angeles County Drainage Area, Sawtelle-Westwood System, Ballona Creek to Braddock Dr., Serial No. Eng-04-053-49-67.

†Missouri—U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., Gillis St., Lydia Ave. and Prospect Ave. Pumping Plants, Serial No. Eng., 23-028-49-192. CD 3/2—ENR 3/10, under LB.

May 11

†Nebraska—U. S. Eng., 601 Davidson Bldg., Kansas City, S. Mo. Levee Unit 513-512 R, Sect. 1, along banks of Nemaha River 4 mi. south of Rulo, incl. clearing, grubbing 201,000 cu. yd. common excav., 1,756,000 cu. yd. earth fill, 80 m.g. water for embankment completion, 140 cu. yd. concrete, 325 lin. ft. 2-to 36-in. corrugated metal pipe, etc., Announcement No. Eng-23-028-49-191.

LOW BIDDERS

●†Pennsylvania—U. S. Eng., 925 New Federal Bldg., Pittsburgh, Apr. 8, Conemaugh Dam, Eng-36-058-49-99, from Savin Constr. Co., 10 Village St., East Hartford, Conn., **$8,736,028.** Est. $8,484,448. CD 3/25—ENR 3/31.

CONTRACTS AWARDED

Minn., St. Peter—Nicollet Co., H. Overn, aud., St. Peter, excav., leveling 25 mi., and furnishing metal culverts, County Ditch 30, to Ewing & Lake Co., Onawa, Ia., **$75,823.** Bids 3/25. CD 3/9—ENR 3/17.

†Montana—U. S. Eng., Fort Peck, drain ditch for pressure relief wells, access roadway and revisions, to relief well outlet facilities, Serial No. Eng. 24-016-49-66, to Murray & Weir, Sidney, **$83,585.** Est. $74,565. Bids 4/5. CD 3/16—ENR 3/24.

Tex., Dallas—Homer W. Snowden, 6336 Richmond St., drainage and site grading, to C. H. Burns & Sons Constr. Co., c/o Koch & Fowler, engrs., Gr. Natl. Life Bldg., Approx. **$50,000.**

Tex., Denton—C. Hobson Dunn, Mercantile Bank Bldg., Dallas, irrigation at Stoney, own forces. Approx. **$75,000.**

Tex., Garland—D & B Pump Div., EMSCO Derrick & Equipment Co., 7626 Denton Dr., Dallas, drainage, grading. Owner builds, **$35,000.**

Tex., San Antonio—J. B. Etheridge, 624 Bedell Bldg., drainage, to H. B. Zachry Co., P. O. Box 1570, **$50,000.** E. J. Wentworth, Travis Bldg., engr.

AIRPORTS AND AIRBASES

BIDS ASKED

May 5

†Calif., Compton—TACTICAL CENTER—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, tactical air direction center bldg., and utility sys., Job. No. Compton NGB A-82C, for 148th Aircraft Control and Warning Squadron, California National Guard, Serial No. Eng. 04-353-49-62. CD 4/5.

LOW BIDDERS

Pa., Phila.—AIRPORT—Dpt. P. Wks., City Hall Annex, Apr. 8, grading, subdrainage, Phila. International Airport, from Samuel Glasgow, 2625 Church Rd., Glenside, **$224,925.** A. Zane Hoffman, c/o owner, ch. engr.

†Alaska—WARM-STORAGE FACILITIES—U. S. Eng., Pier 51, Seattle, Wash., Apr. 6, motor-pool warm-storage facilities at Ladd Air Force Base, from Slater & Jacobsen, Fairbanks, **$259,643.** CD 2/14—ENR 2/17.

CONTRACTS AWARDED

Okla., Ponca City—AIRPORT—City, runway paving and drainage structures of Ponca City Municipal Airport, to S. & S. Constr. Co., Ponca City, **$94,758.** Bids 3/28. Fred Fellows, Ponca City, engr.

PUBLIC BUILDINGS

BIDS ASKED

April 25

Conn., Milford—Bd. Educ., Milford High School, school. $400,000. Plans deposit $25. Jesse James Hamblin, 1188 Main St., Bridgeport, archt. CD 3/29—ENR 4/14.

April 26

†Ga., Atlanta—U. S. Eng., Post Office Bldg., Savannah, Bldg. 4, Barnes Bldg., 699 Ponce de Leon Ave., Serial No. Eng-09-133-49-164. Extended date. CD 4/6.

April 27

Ala., Fort Wayne—Dekalb County Hospital Assn., c/o Paul W. Hofferbert, archt., Gadsden, hospital. Extended date. CD 1/23—ENR 1/27.

Ala., Tuscaloosa—University of Alabama, Tuscaloosa, science bldg., Miller, Martin & Lewis, Title Guarantee Bldg., Birmingham, archts. CD 2/7/46—ENR 2/14/46.

Conn., Southington—Town Housing Auth., Town Hall, housing $270,000. Plans deposit $25. Pedersen & Tilney, 155 Orange St., New Haven, archts. CD 1/13—ENR 2/3.

La., Shreveport—State Div. Administration, 201 Capitol Annex, Baton Rouge, Pines Hospital addns., alterations, $300,000. Plans deposit $25. McClenaghan & Barr, 4503 Gilbert Ave., archts.

Miss., Lucedale—George Co., Lucedale, hosp. bd., $250,000. Plans deposit $25. Smith & Lochin, Legion Bldg., Gulfport, archts.

●N. Y., East Sidney—U. S. Eng., P. O. Box 1715, Baltimore 3, Md., operator's residence, garage and shop bldg., East Sidney Dam, Serial No. Eng-18-020-49-62. CD 12/29/43—ENR 1/13/44.

N. Y., New York—Dpt. P. Wks., Albany, construction and electrical work for substation, electric connections, temporary switching equip., etc. Manhattan State Hospital, Wards Island. CD 12/11/46—ENR 12/26/46.

Pa., Philipsburg—Dept. Property & Supplies, 18 and Herr Sts., Harrisburg, construction incl. chimney, coal and ash silos, for relocated boiler plant and enlarged laundry at Philipsburg State Hospital. $250,000. Plans deposit $7.50. Gatter & Diehl, 321 N. Front St., Harrisburg, engrs. CD 8/19—ENR 9/2.

Ont., Camp Borden—Dominion Govt., Dpt. National Defense, Ottawa, grading, sodding, roadway, concrete sidewalks. $50,000. Plans deposit $25. Canadian Commercial Corp., 70 Lyon St., Ottawa, engrs.

April 28

Fla., Haines City—Polk Co. Bd. P. Instruction, Bartow, high school. Plans deposit $50. L. Alex Hamlin, Orlando, archt. CD 3/25—ENR 3/31, under LB.

†N. D., Riverdale—U. S. Eng., Fort Lincoln, Box 300, Bismarck, converting temporary administration bldg. to dormitory hotel annex, Serial No. Eng-32-015-49-80.

Tex., Longview—**Gregg Memorial Hospital,** Longview, 40-room hospital addn., $639,400. Walton, Morris & Crain, 3212 Smith St., Houston, and Staub & Rather, 500 Stuart St., Houston, consult. archts. W. P. Moore, 4605 Montrose St., Houston, engr. CD 8/20—ENR 9/2.

Ont., Orillia—Page & Steele, archts., 72 St. Clair Ave. W., Toronto, 2 story, 117x200 ft., brick, steel collegiate institute addn., concrete fdn., for Collegiate Institute Bd., Orillia. Approx. **$600,000.** CD 1/16/48—ENR 2/5/48.

April 30

†N. M., Albuquerque—U. S. Eng., P. O. Box 1538, 3 story 42x187 ft. structural steel bachelor officers quarters, field grade bldg.; 2 three story, 37x187 ft. partial basmt. structural steel company grade bldgs., stucco on masonry walls (EOP-919), Serial No. Eng. 29-005-49-73. $400,000. CD 4/6.

Wis., Winneconne—Joint School Dist. 1, Route 5, Oshkosh, 1 story, 60x418, 1 story 60x410 ft., and 1 story, 85x150 ft. steel, concrete, brick and concrete walls high and grade school. $405,000. R. N. Le Vee & Assoc., 203 E. College Ave., Appleton, archts. CD 10/4/45—ENR 10/18/45.

About May 1

Ill., Wood River—Bd. Educ. School Dist. 104, Madison Co., Glenn O. DeAttley, supt., Lorena St. and Fourth Ave., 1 story, brick, concrete, steel, stone auditorium-gymnasium and cafeteria addn., Lewis-Clark School 5 Ave. between Lorena and Acton St. Wm. B. Ittner, Inc., 408 Bd. Educ. Bldg., 911 Locust St., St. Louis, 1, Mo., archt. CD 10/6—ENR 10/14, under LB.

May 1

W. Va., Charleston—Charleston Memorial Hospital, Inc., Charleston, 130-bed city general hospital. $3,000,000. Tucker & Silling, Masonic Temple, archts.

On or About May 3

†Kan., Fort Leavenworth—U. S. Eng., 1709 Jackson St., Omaha, Neb., site preparation for printing plant, Spec. No. 25-066-49-229. CD 1/5—ENR 1/13.

About May 3

†Tex., Camp Hood—U. S. Eng., 606 Santa Fe Bldg., Galveston, about 45 two bedroom type and 45 three bedroom type houses, incl. sewerage treatment plant, elevated water tank, asph. surf. roads and streets, Serial No. Inv. No. Eng-41-243-49-262. CD 8/12—ENR 9/2.

May 3

Calif., Berkeley—State Div. Architecture, P. Wks. Bldg., Sacramento, California School for Deaf, Unit 5, 1 story, reinforced structure and Unit 6, 2 story structure, 30,300 sq. ft. combined floor area. Plans deposit $25. Anson Boyd, Sacramento, state archt.

May 4

†Ga., Fort Benning—U. S. Eng., 2301 Grant St., Mobile 7, Ala., family type quarters, Serial No. Eng-01-076-49-125; utilities and site imprvs. for family type quarters, Serial No. Eng-01-076-49-138. Extended date. CD 3/15—ENR 3/17.

Miss., Carthage—Leake Co., Carthage, hospital. $550,000. Plans deposit $50. Drummond & Christian, 125 Amite St., Jackson, archts. CD 1/26—ENR 2/16.

●Pa., Woodville—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, general contract; heating and ventilating, plumbing and drainage, electrical work, two passenger elevators for admissions bldg. at Woodville State Hospital. $1,700,000. Plans deposit $15 for general, $7.50 each for other. Bowers & Barbalet, Bakewell Bldg., Pittsburgh, Zone 19, archts. A. F. Jones, c/o owner, ch. engr. CD 2/19/48—ENR 2/26/48.

May 5

†Md. Edgewood—U. S. Eng., 1 and Douglas Sts., N. W., Wash., D. C., family quarters, Army Chemical Center, Serial No. Eng. 49-080-49-143-(34) M. CD 3/5—ENR 3/29.

†N. M., Hot Springs—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver, Federal Center, Denver, Colo., 110,000/2,400 volt, 3,000 kva package type substation equip. for Hot Springs Substation, Rio Grande Proj. Texas-Mexico. Approx. $100,000.

About May 6

†N. M., Albuquerque—U. S. Eng., P. O. Box 1538, 61x241 ft., 49x61 ft., and 20x40 ft., 17,941 sq. ft. floor area laundry, Serial No. Eng-29-005-49-81.

†N. M., White Sands—U. S. Eng., P. O. Box 1538, Albuquerque, approx. 100 three bedroom, 27x47 ft. frame and stucco single type family quarters approx. 4 mi. south of U. S. Hy. 70 and 20 mi. east of Las Cruces, Serial No. Eng-29-005-49-75. CD 6/23/47—ENR 7/10/47.

(Continued on page 50)

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ADAMS No. 610–100 H.P. DIESEL

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▼ Scarifying limestone road base

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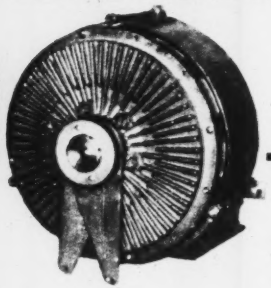

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(Continued from page 78)

May 6

O., Wooster — Dpt. P. Wks., George B. Sowers, dir., Columbus, horticulture bldg. at Ohio Agricultural Experiment Station, McGeorge, Hargett & Assoc., 7016 Euclid Ave., Cleveland, Zone 3, engrs. CD 9/2—ENR 9/16.

On or About May 8

+N. M., Albuquerque—U. S. Eng., P.O. Box 1538, bachelor officers' quarters, (EOP-9191), Sandia Base, Serial No. Eng-29-005-49-73. CD 4/8—ENR 4/14.

About May 9

+Tex., Dallas—U. S. Eng., P.O. Box 61, Tulsa 2, Okla., remodeling bldg. to be used as materials testing laboratory, at 4814 Cass St.

May 11

Md., Bel Air—Harford Co. Bd. Educ. general construction North Harford High School. Plans deposit $60. Alex Shaw, Palmer, Fisher, Williams & Nes, 1020 St. Paul St., Baltimore, archts. CD 8/20/46—ENR 9/5/46.

About May 12

+N. M., Albuquerque—U. S. Eng., P.O. Box 1538, constructing gymnasium (EOP-936-A), Sandia Base, Serial No. Eng-29-005-49-76.

May 12

●O., Columbus—Ohio State University, Jacob H. Taylor, bus. mgr., Columbus, 2 story 190 x 255 ft. student union bldg. with wings for bowling alleys and 2 ballrooms, $5,000,000. Bellman, Gillett & Richards, 518 Jefferson St., Toledo, archts. CD 12/30—ENR 1/6.

About May 16

+Ohio—U. S. Eng., Madison Ave. and 8 St. W., Huntington 18, W. Va., operators quarters, appurtenances, Delaware Reservoir Proj., Olentangy River.

May 18

Ore., Klamath Falls—Klamath Co., Courthouse, 3 story, 196 x 180 ft., tem-cons., brick faced city-county jail, $300,000. Plans deposit $25. Sheldon Brumbaugh, Box 812, archts. CD 3/1/48—ENR 3/4/48, under LB.

On or About May 21

+Ga., Augusta—U. S. Eng., Post Office Bldg., Savannah, Laboratory Bldg. 202 alterations, addns., Oliver General Hospital. Extended date. CD 3/15—ENR 3/17.

On or About May 27

+Ga., Savannah—U. S. Eng., Post Office Bldg., Savannah, Bldg. & 3 alterations, Savannah Quartermaster Depot.

May 30

●Ga., Atlanta—City, City Hall, library, $1,200,000. Toombs & Creighton, Walton St. N. W., archts. CD 4/22/48—ENR 4/13/48.

About June 1

+N. D., Minot—U. S. Eng., Administration Bldg., Fort Peck, Mont., nurses' quarters for John Moses Veterans Memorial Hospital, Serial No. Eng-24-016-49-69. Plans deposit $20.

LOW BIDDERS

Md., Frederick—Frederick Memorial Hospital, Frederick, Mar. 22. Frederick Memorial Hospital north wing, alterations and addns. to Baker Wing and Power House, from Lloyd L. Culler, Frederick, **$193,333.** CD 3/15—ENR 3/17.

Mass., Worcester—City, Mayors Office, City Hall, Mar. 28, May St., School addn. from Clark Constr. Co., 1147 Main St., Worcester, **$306,221.** CD 2/15—ENR 3/17.

Minn., St. Paul — University of Minnesota, Minneapolis, Mar. 29, general contract animal and poultry husbandry bldg., St. Paul campus, from D'Arcy Leek Constr. Co., 2838 Stevens Ave., Minneapolis, **$308,695.** CD 3/9 ENR 3/17.

Minn., Willmar — State Dpt. Admin., State Capitol, St. Paul, Apr. 1, general contract receiving bldg., State Hospital, from Encelen Co., Springfield **$277,660.** CD 3/16—ENR 3/24.

+N. M., Albuquerque—U. S. Eng., P.O. Box 1538, 100x600 ft. warehouse, at Sandia Base, Serial No. 291-49-18, from Utah Constr. Co., Ogden, Utah, and C. H. Leavell & Co., 1900 Wyoming St., El Paso, Tex., **$493,590. (Correction**—price). CD 4/5—ENR 4/7, under LB.

+Ohio—U. S. Property & Disbursing Office, Bldg. 101, Fort Hayes, Columbus, Mar. 23, concrete block garages, 50 x 420 ft. at Ayelo, Marysville, Blanchester, Eaton, Piqua, Dayton, Cincinnati, Lima and Toledo, 52 x 128 ft. at Lebanon, 50 x 100 ft. at Napoleon and Warren, 50 x 200 ft. at Ashtabula, from Dawson-Evans Constr. Co., 5200 Vine St., Cincinnati, **$341,698.**

Okla., Norman—State Bd. Affair, Capitol Bldg., Oklahoma City, Apr. 8, dining hall and remodeling 3 ward bldgs. at State Hospital, from Manhattan Constr. Co., 1st. Natl. Bldg., Oklahoma City, **$459,913.** Hudgins, Thompson & Ball, 1100 W. Main St., archts.

Okla., Ponca City—Bd. Educ., Ponca City, rejected bids Mar. 28, Lincoln School addns. and remodeling, LB, **$265,000.** Timberlake & Kennedy, Community Bldg., archts.

Pa., Drexel Hill—Delaware County Hospital, Drexel Hill, Mar. 31, hospital addn., from Charles F. Rohleder & Co., 600 Schuylkill Ave., Phila., **$282,723.** CD 3/24.

Tex., Houston—Houston Independent School Dist., 1600 Washington St., Berry School, from Williams Constr. Co., P.O. Box 9162, **$148,000.** CD 3/22—ENR 3/24.

Utah, Brigham City—Box Elder County School Dist., c/o Clerk, County Courthouse, rejected bids Mar. 28, general contract Central School. L. B. **$148,275.** Karl L. Krusmark, Brigham City, archt.

CONTRACTS AWARDED

Ark., Pine Bluff — City, 78 homes, to C. J. Smithwick, 1801 W. 25 St., Approx. **$250,000.**

Calif., Ventura — San Benaventura Elementary School Dist., 1120 E. Main St., Will Rogers School addn., to Structon, 4201 Sunset Blvd., Los Angeles, **$354,497.** Est. $300,000. Bids 3/23, awarded 3/28. CD 3/2—ENR 3/10.

Fla., Tallahassee — State Bd. Control, First National Bank Bldg., Orlando, dormitory at Florida State University, to Jack Culpepper, 112 E. Park Ave., **$293,780.** Bids 3/31. CD 3/18—ENR 3/24.

Idaho, Coeur d'Alene—North Idaho Junior College, Coeur d'Alene, general contract 2 story, brick, 61 x 176 ft. and 118 x 162 ft. auditorium, classroom and gymnasium bldg., to H. Halvorson, Inc., Ziegler Bldg., Spokane, Wash., **$398,924.** Bids 4/4. CD 3/10—ENR 3/17.

Ill., Evanston—School Dist. 75, Evanston, 1 story, brick College Hill School addn., Skokie, to Power Constr. Co., 2122 Marion St., Oak Park. Approx. **$375,000.** Bids 3/21. CD 3/11.

Ia., Mason City—Bd. Educ., Mason City, Harding School addn., to Henkel Constr. Co., Mason City, **$260,591.** Bids 3/8. Hansen & Waggoner, Mason City, archts., B. E. Landes, 838 5 Ave., Des Moines, engr. CD 2/21—ENR 3/3.

Ia., Onawa—City, M. D. Mock, clk., City Hall, power plant imprvs., incl., Sect. 1, power plant bldg., and Sect. 2, diesel engine generating unit, to R. B. Leary Co., 311 Securities Bldg., Des Moines, **$116,791.** Bids 324, awarded 4/1. CD 3/14—ENR 3/17.

Kan., Kansas City—P. Utilities Bd., Kansas City, steam boiler, to Babcock & Wilcox, 85 and Liberty Sts., New York, N. Y., equip. **$774,816,** labor **$145,771.** Bids 3/22. CD 4/5—ENR 4/7, under LB.

+Neb., Superior — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, erecting 12 two-bedroom and 8 three-bedroom residences for government housing, Spec. R7-40 (Region 7), Missouri Basin Proj., to Southern Mill & Mfg. Co., 525 S. Troost St., Tulsa, Okla., **$153,965.** Bids 1/6, awarded 3/28. CD 12/6—ENR 12/9.

N. M., Portales—Eastern New Mexico College, Portales, student union and women's dormitory, to C. S. Lambie & Co., Amarillo Bldg., Amarillo, Tex., **$540,737.** Bids 4/5. CD 4/12—ENR 4/14, under LB.

O., Columbus—Ohio State University, Columbus, general contract agricultural laboratories bldg., to Haig M. Boyajohn & Co., 906 W. 3 Ave., **$672,922.** Bids 3/17. CD 3/23—ENR 3/31, under LB.

Okla., Lake Murray—Bd. Water Resources, Capitol, Oklahoma City, lodge bldg., with dining hall and 26 air-conditioned rooms and 40 air-conditioned cabins, to Burton-Miller Constr. Co., Ardmore, **$527,654.** Bids 3/29, awarded 4/6. CD 4/5—ENR 4/7, under LB.

Pa., Dunmore—Dunmore Boro, Dunmore, brick, concrete block garage, to Jones Constr. Co., 51 S. Hancock Ave., Wilkes-Barre, **$200,000.** John J. Howley, Elmhurst, archt.

●Pa., Embreeville—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, general contract female and male ward bldgs., at Embreeville State Hospital, to McCloskey Homes, Inc., 1626 N. Thompson St., Phila., Zone 21, **$1,173,000** and **$1,172,000** respectively. Bids 3/2, awarded 4/7. CD 3/7—ENR 3/10, under LB.

Pa., Johnstown—School Dist. of Richland Twp., Geistown, 2 story, 60x177 ft., brick, hollow tile, high school, Route 56, between Wilder and Johnstown, to Gamble & Gamble, Bolivar. Approx. **$278,491.** Bids 3/25. CD 3/2—ENR 3/10.

Tex., Austin—City, G. Morgan, mgr., City Hall, Contr. 6, boiler feed pumps for power plant imprvs., to San Antonio Machine & Supply Co., 325 Center St., San Antonio, **$79,800.** Bids 3/15. CD 2/28—ENR 3/3.

Tex., Panhandle—Carson Co., O. R. Beldingfield, judge, Courthouse, courthouse and jail, to Neil Singleton, 514 N. Fillmore St., Amarillo, **$555,875.** Bids 3/7. CD 3/15—ENR 3/17, under LB.

●Va., Lynchburg—State Hospital Bd., Richmond, general contract personnel and patients bldg. addns., at Lynchburg State Colony, to J. A. Jones Constr. Co., 209 W. 4 St., Charlotte, N. C., **$1,367,000.** Bids 3/31. CD 4/6—ENR 4/14, under LB.

Wis., West Allis—Housing Auth. of West Allis, 7525 W. Greenfield Ave., Zone 14, carpenter work for thirteen 2 story, bsmt., 30x116 ft., brick, frame apartments, to Ted Simons, 2111 E. Howard Ave., Milwaukee, Zone 11, **$311,753.** Bids 2/8, awarded 3/30. CD 2/23—ENR 3/3.

N. B., Chipman—Bd. Trustees, E. S. Darrah, chn., Chipman, rein.-con., steel, brick regional high school, to Caldwell Constr. Co. Ltd., 95 York St., Fredericton. Approx. **$300,000.** Bids 10/28. CD 10/22.

Ont., Hamilton — Hydro-Electric Power Comn., 12 King St., 1 story, bsmt., 34x52 ft., concrete, stone sub station, to W. H. Cooper Constr. Co. Ltd., Medical Arts Bldg., Approx. **$100,000.** Awarded 3/14. W. R. Riddell, 25 S. Hughson St., archt.

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COMMERCIAL BUILDINGS

BIDS ASKED

April 25

N. J., North Arlington (br. Arlington)—Queen of Peace R. C. Church, 180 Ridge Rd., church and rectory, $950,000. Paul C. Reilly, 111 Fifth Ave., New York, N. Y., archt.

Pa., Corry—Corry Hospital Assn., Corry, brick, steel memorial hospital. $620,000. Hunter, Caldwell & Campbell, Deposit Natl. Bank, Dubois, archts. CD 2/3—ENR 2/19.

April 28

Ala., Mobile—Veterans Coop Home Building Assn., c/o Luquire, Ent. Co., engr., 255 St. Francis St., Mobile, 60 homes in Belle Cour subdivision. Plans deposit $55.

Pa., Huntingdon—J. C. Blair Memorial Hospital, Huntingdon, 3 story, bsmnt., T-shaped, brick, stone hospital, $750,000. Extended date. Chatfield & Schlosser, 1700 W. Chelten Ave., Phila., archts. CD 2/25—ENR 3/3.

May 2

Pa., Lehighton—Hutton Memorial Hospital, Lehighton, brick, steel hospital. $650,000. H. F. Everett & Assoc., Commonwealth Bldg., Allentown, archts. CD 2/12/47—ENR 2/27/47.

May 3

Ia., Cedar Rapids—Coe College, Cedar Rapids, college bldg. $275,000. Plans deposit $25. Jess F. Larson, 331 Madison Ave., New York, N. Y., archt. Howard R. Green Co., 417 1 Ave., Cedar Rapids, engr. CD 4/29—ENR 5/13.

May 4

Colo., Denver—Rocky Mountain Osteopathic Hospital, Ralph B. Mayo, 2221 Downing St., 2 story, 74x207 ft., 50-bed hospital, $350,000. Fisher & Fisher, 827 Denver National Bank Bldg., engrs. and archts. CD 7/1/45—ENR 7/19/45.

May 10

Calif., Tahoe City—Squaw Valley Development Co., Wayne Poulsen, pres., Tahoe City, resort lodge. Approx. $250,000. CD 3/24—ENR 4/7.

May 16

Ont., Sault Ste. Marie—Secy., c/o Algoma Home for Aged, B. R. McMulvin, secy., 1 story, brick, concrete institutional bldg., 2 story administration sect., Tarentorius Twp., at Junction Hy. 17 and 3rd line, approx. 2 mi. from here. Approx. $450,000. Plans deposit $50. Rounthwaite, Cameron, Murray & Fairfield, 22 Harbard St., Toronto, archts. CD 12/27—ENR 1/20.

Bids Asked

Ill., Chicago—Goldblatt Bros., 333 S. State St., 3 story, brick, concrete, steel, stone department store addn., remodeling, 322-32 S. Wabash St., Friedman, Alschuler & Sincere, 223 W. Jackson St., archt.

N. J., Elizabeth—Westminister Presbyterian Church, 234 Bradford Rd., (selected 1st bidder) church. $300,000. C. Godfrey Poggi, 621 Newark Ave., archt. Harold E. Wagoner, 117 S. 17 St., Phila., Pa., engr. Slocum & Fuller, 714 Fifth Ave., New York, 19, N. Y., mechanical engrs. CD 2/25—ENR 3/3.

●**Pa., Pottstown**—Andrew C. Boerner, archt., 4 S. 13 St., Phila., residential development for H. C. Goodwin, c/o architect. $1,500,000.

SOON LETS CONTRACT

N. J., Trenton—The William McKinley Memorial Hospital, Brunswick and Ferrier Aves., soon lets contract, hospital addn. $250,000. Extended date. Louis S. Kaelin, 27 N. Montgomery Ave., archt. CD 1/13—ENR 1/20.

●**Pa., Holtwood**—Pennsylvania Power & Water Co., 62 N. Duke St., Lancaster, soon lets contract, 250 brick, concrete block, frame residential units, $1,500,000. Henry W. Sloan, Lancaster, archt. (**Correction**—status). CD 4/6—ENR 4/14, under C.A.

LOW BIDDERS

N. J., Cape May Courthouse—Burdette J. Tomlin Memorial Hospital Foundation, Cape May Courthouse, Apr. 4, memorial hospital, from Ralph S. Herzog, 1505 Race St., Phila., Pa., $294,362. CD 3/9—ENR 3/17.

CONTRACTS AWARDED

Ala., Birmingham—Beachwood Park, Inc., 218 N. 21 St., 50 homes. Owner builds. Approx. $250,000.

Ala., Birmingham—Jackson Securities & Investment Co., 2121 8 St., 100 homes, separate contracts. Approx. $250,000.

Ala., Childersburg—Grove Park Constr. Co., c/o Earle Murray, archt., Clark Bldg., Birmingham. 100 houses. Owner builds. Approx. $300,000.

Ark., Crossett—Crossett Health Foundation, Crossett, health center, to William Peterson, Commercial Natl. Bank Bldg., Little Rock. $657,900. Bids 2/15. CD 2/11—ENR 2/17.

Calif., Long Beach—Plunkett, Bailey, Crawford, c/o Victor Siebert, archt., 59 Prospect Ave., 100 frame, stucco dwellings, Oregon Ave. and Del Amos St., Owner builds. $300,000.

Calif., Redondo Beach—Southwest Constr. Co., 4105 W. Victory Blvd., Burbank, 40 frame, stucco dwellings, to David Rice, 4105 W. Victory Blvd., Burbank. Approx. $250,000.

Fla., Jacksonville—Paul Smith Constr. Co., 175 Stockton St., apartment. Owner builds. Approx. $250,000. CD 3/30.

Ga., Athens—University Court Apartments, Inc., c/o contractor, 40 apartment units, Cedar St. Exten., to Mathis Constr. Co., Lumpkin St. Approx. $250,000.

Ill., Chicago—Auto Mechanics Union, c/o Shaw, Metz, & Dolan, archts., 208 S. LaSalle St., 2 story, 75x100 ft., brick, concrete meeting hall, to Walsh Constr. Co., 140 N. Dearborn St. Approx. $400,000.

Ill., Chicago—Illinois Institute of Technology, 3300 S. Federal St., 2 story, brick, steel research laboratory, to Federal Constructors, Inc., 173 W. Madison St. $140,000. Awarded 3/25. Friedman Alschuler & Sincere, 223 W. Jackson Blvd., archts., Ludwig H. Van Der Rohe, 37 S. Wabash St., engr. CD 12/1/47—ENR 12/11/47.

Ia., Council Bluffs—Roy W. Smith, 210 Wockham Bldg., 55 houses, day labor. $350,000.

Ia., Waterloo—Conger Park Realty Co., Waterloo, apartment, to John G. Miller Const. Co., 222 W. Mellan St., $300,000.

Miss., Jackson—F. R. Kimbrough, 267 E. Pearl St., 46 houses. Owner builds. Approx. $250,000.

Neb., Lincoln—Johnson-Schafer Co., 2847 A St., apartments containing 36 housing units, day labor. Approx. $300,000.

N. J., Paulsboro—Owner, c/o Edwards & Green, engrs. and archts., Broadway and Carmen St., Camden, apartment development, separate contracts, $405,000.

N. J., Pennsauken—George Moore, 9 Woodbine Ave., Merchantville, residential development, separate contracts. $250,000. Dante D'Anastasio, 201 Horner Ave., Pennsauken, archt.

N. J., Trenton—J. C. McCarthy, 1203 Parkside Ave., residential development, Glendale, Ewing Twp., separate contracts. $300,000. Carl Adams, c/o owner, archt.

N. J., Westville—Seaboard Housing Corp., 22 Spruce Ave., Westville, residential development, W. Red Bank Ave., West Deptford Twp., separate contracts. $300,000.

N. Y., Lake Ronkonkomo—St. Joseph's Parish, Lake Ronkonkomo, school and auditorium, to John W. Ryan Contg. Co., 369 Lexington Ave., New York. Approx. $250,000. Bids 1/6. CD 12/20—ENR 12/23.

O., Cincinnati—Charles Burns, Box 482, Colerain Pike, 28 residences. Owner builds. $140,000.

O., Cincinnati—Nu-Way Concrete Homes, Inc., c/o Sam Sebel, 626 Broadway, 100 concrete residences. Owner builds. $600,000.

●**O., Lakewood**—Lakewood Apartments, Cliftwood Corp., 1141 Union Comm. Bldg., Cleveland, design and construction 1 to 4 story steel frame, brick and cinder block apartment and penthouse, four 24 x 40 ft. wings, 11732 Edgewater Dr., north side of intersection of Highland and Edgewater Dr., to Byrne Organization, Inc., 2602 Connecticut Ave., Wash., D. C. Zone 5. Approx. $900,000.

Okla., Ada—First Methodist Episcopal Church, Ada, church, to Lippert Bros. Co., 2800 N. Santa Fe St., Oklahoma City, Zone 5, $289,600. Bids 3/16. CD 2/23—ENR 3/3.

Okla., Oklahoma City—Mercy Hospital, 12 and Walker Sts., Zone 3, nurses school and home for Mercy Hospital, to Harmon Constr. Co., 1138 W. 4 St., $311,787. Bids 3/29. CD 3/22—ENR 3/31.

Ore., Portland—Lipman Wolfe & Co., 521 S. W. 5 St., remodeling main floor store, to Ralph & Horowitz, 1835 N. Flint St., $500,000. Awarded 3/25. Houghtaling & Dougan, Terminal Sales Bldg., archts. CD 8/6—ENR 8/12, under L.B.

Ore., Salem—S. H. Kress Co., Pacific Mutual Shopping Center, Salem, 2 story store, to L. H. Hoffman, 215 S. W. Columbia St., Portland. $250,000. Awarded 4/1.

Pa., Allentown—Phoebe Deaconess Home, 1903 Turner St., 3 story, stone infirmary, to William H. Gangewere, A. N. B. Bldg., $250,000. Harry F. Everett & Assoc., Commonwealth Bldg., archts.

Pa., Carlisle—Wm. M. Hollinger, 203 Market St., Harrisburg, 30 brick residences, separate contracts. Approx. $250,000.

Pa., East Stroudsburg—East Stroudsburg General Hospital, c/o H. H. Smith, 206 E. Brown St., 4 story, brick hospital, to A. L. Rike & Sons, 227 Washington St., $850,000. CD 12/28—ENR 1/6, under LB.

Pa., Kennett Square—James H. Redditt, Inc., 1901 N. 60 St., Phila., residential development, separate contracts. Approx. $300,000.

Pa., Lansdowne—Horn & Hardart Baking Co., 208 S. Warnock St., Phila., restaurant and retail store, to Murphy, Quigley & Co., 1518 Sansom St., Phila., $250,000. CD 9/2—ENR 9/16.

Pa., Mercersburg—Mercersburg Academy, Mercersburg, classroom, library, recitation hall and laboratory, to Ebaugh, Camp, Chambersburg, $500,000. Bids 2/21. CD 2/11—ENR 2/17.

Pa., Phila.—The Curtis Bailey Co., 69 and Walnut Sts., Upper Darby, residential development, Woodbine Ave., separate contracts. $500,000. Erling E. Wanke, McClatchy Bldg., Upper Darby, archt.

●**Pa., Phila.**—Fairlamb Constr. Co., 7052 Garrett Rd., Upper Darby, residential development, 76 and 77 Sts., Sherwood and Brentwood Rds., separate contracts. Approx. $1,140,000. Richard R. Neely, 10 S. 18 St., archt.

●**Pa., Phila.**—Herman Friedman, 1653 E. Tulpehocken St., residential development, Wyoming St., separate contracts. Approx. $1,000,000. Lewis J. Cowan, 1505 Pine St., archt.

Pa., Phila.—S. J. Gorchov & Bros., 40 St. and Baltimore Ave., apartment, 418 S. 4 St., separate contracts. $250,000.

Pa., Phila.—Greenhill Merion Constr. Co., McClatchy Bldg., Upper Darby, residential development, Rhoads St., separate contracts. Approx. $270,000. Erling H. Wenge, c/o owner, archt.

Pa., Phila.—Kerr & Williams, 442 W. Cheltenham Ave., residential development, Robbins Ave., separate contracts. $250,000.

Pa., Phila.—Samuel L. McGuckin, 5267 Roosevelt Blvd., residential development, Bloomdale Rd., etc., separate contracts. Approx. $250,000.

Pa., Phila.—Owner c/o general contractor, apartment development, Rosemary Lane, to Balsam Constr. Co., 4 St. and Allegheny Ave., $250,000.

Pa., Phila.—Stenton Hills, Inc., 901 Sharpnack St., residential development, Cordeza St., separate contracts. Approx. $250,000.

Pa., Phila.—Torresdale Corp., 5501 Torresdale Ave., residential development, Rosalie St., separate contracts. $300,000. David H. Jenkins, 5116 Oakland St., archt.

Pa., Pottstown—Italian S. M. S. Maria Sascanta Club, 317 Cherry St., club, to John C. Dethoff, 1600 Hampden Blvd., Reading, $250,000. Bids 2/18. CD 2/11—ENR 2/17.

Pa., Pottstown—Anthony L. Veach & Earl M. Kerstetter, 24 N. Evans St., residential development, Brookside Manor, separate contracts. Approx. $250,000.

Pa., Waynesboro—Waynesboro Development Co., Waynesboro, 30 brick, residential units, separate contracts. Approx. $275,000.

R. I., Riverton—E. W. Bonneau, 90 Holden St., Fall River, Mass., approx. fifteen 1½ story, single family frame houses. E. Main Rd. Owner builds. Approx. $250,000.

Tenn., Memphis—Methodist Hospital, c/o contractor, hospital addn., to Sam P. Maury Constr. Co., 554 Adams St., $612,222. Bids 3/15, amended 3/31. CD 3/23—ENR 3/31, under LB.

Tenn., Nashville—C. B. Kelley Co., 3rd Natl. Bank Bldg., 27 homes in Pleasant Valley sub-division. Owner builds. Approx. $300,000.

Tex., Austin—Southwestern Bell Telephone Co., 308 S. Akard St., Dallas, telephone bldg., to C. M. Odom, P. O. Box 774. Approx. $391,000. Bids 3/11. CD 3/2—ENR 3/10.

Tex., College Station—Apartments, Inc., c/o J. C. Culpepper, Bryan, 5 apartments, own forces. Approx. $300,000. CD 3/3—ENR 3/17.

Tex., Dallas—Tom W. Grace & Assoc., 4703 Ross Ave., 41 dwellings. Owner builds. $275,000. CD 4/1.

Tex., Dallas—Tom Lively & Ira L. Rupley, 6334½ Gaston Ave., low cost Negro cottages. Old Skyline Airport site, own forces. $325,000. Foshee & Cheek, 1901½ N. Harwood St., architects. CD 7/26/48—ENR 8/5/48.

Tex., Dallas—W. M. Smith, 5254 Vanderbilt St., 30 dwellings. Owner builds. Approx. $250,000.

Tex., Fort Worth—Worth Builders, 603 1st Natl. Bank Bldg., 48 one story, frame residences, in Morningside Park Addn, own forces. Approx. $250,000. CD 4/6.

Tex., Houston—R. Bell, 6319 Long Dr., 40 dwellings. Owner builds. Approx. $450,000. CD 4/1.

Tex., Houston—Robert W. Clemens & Assoc., 4310 Dennis St., 11 two story apartments. Owner builds. Approx. $425,000. CD 3/30.

Tex., Houston—Louis Sacks, Scanlan Bldg., 40 dwellings, own forces. Approx. $275,000. CD 4/6.

Tex., Houston—Southmayd Building Company, 2300 Pease St., 31 dwellings, owner builds. $260,000. CD 4/1.

Tex., San Antonio—R. B. Smith Co., Inc., 701 Bandera Rd., 40 dwellings off Marquette Dr. and W. Mulberry Ave., day labor. $275,000. CD 4/1.

Utah, Salt Lake City—Ben H. Davis, Interurban Bldg., and A. P. Neilson, 2060 S. Main St., modern 67 unit, 7 story apartment. Owner builds. Approx. $700,000. Slack Winburn, 619 Reason Bldg., archt. CD 3/3/48—ENR 3/11/48.

Wis., Appleton—St. Therese Parish, Appleton, 2 story, bsmnt, L shaped, 32x160 ft. convent, 32x32 ft. wing, native, stone, brick, steel, concrete fdn. to Hoffman Co., Inc., 1519 Oneida St. Bids 3/22. CD 3/2—ENR 3/10.

Alta., Edmonton—Alberta College, 10091 101 St., 3 story, bsmnt, 45x85 ft., steel, brick, rein.-con. boy's dormitory, to Mill & Olson, Edmonton. $250,000. G. H. MacDonald, 834 Tegler Bldg., archt.

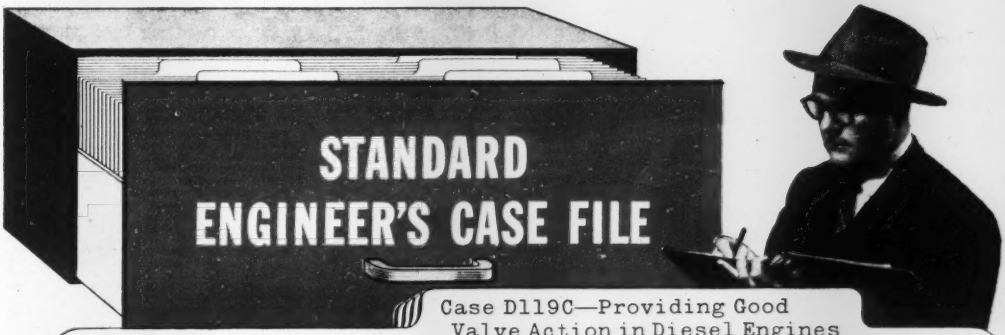
Ont., Eastview—A. Chene, 300 Richelieu St., 50 dwellings. Owner builds. Approx. $425,000.

Ont., Forbes (Postal Dist. Ottawa)—A. Chene, 300 Richelieu St., Eastview, 50 dwellings. Owner builds. Approx. $400,000.

Que., Montreal—Vistarchi Building Corp., 228 Gounod St., 40 cottages. Owner builds. $320,000. E. Vincelli, 228 Gounod St., archt.

Que., Three Rivers—Co-operative d'Habitation, Ste. Marguerite, 50 concrete brick dwellings. $400,000. Owner builds. CD 6/30/44—ENR 7/6/44.

(Continued on page 54)



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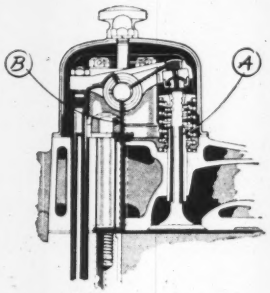

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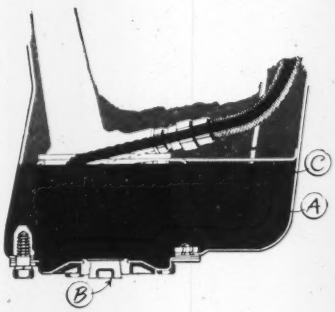

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DIESEL ENGINE RPM DELO LUBRICATING OIL

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(Continued from page 52)

INDUSTRIAL BUILDINGS

BIDS ASKED

April 25

Mass., North Quincy — GARAGE — Swift & Backman, Inc., 319 Washington St., Quincy, 1 story, 31x157 ft. and 68x123 ft., 14,000 sq. ft. brick garage, Hancock and E. Squantum Sts. Approx. $68,000.

Bids Asked

N. J., Atlantic City—FACTORY——Steel's Fudge Shop, 1115 Boardwalk, 1 story, masonry candy factory. Approx. $68,000. H. A. Stout & Son, Guarantee Trust Bldg., archts.

Pa., Chester — PLANT — Scott Paper Co., foot of Market St., pulverizing plant alterations and rebuilding. $70,000. Stone & Webster Eng. Corp., 49 Federal St., Boston, Mass., engrs.

Tex., San Antonio—PLANT—San Antonio Packing Co., 2000 S. Laredo St., 2 story packing plant addn. $75,000. Gordon M. Smith, 400 Alamo Natl. Bldg., archt.

SOON LETS CONTRACT

Del., Dover—SALES and SERVICE—Kent County Motors Co., Dover, soon lets contract auto sales and service bldg. Approx. $68,000. Roscoe Cook Tindall, 703 West St., Wilmington, archts.

Mo., St. Louis—WAREHOUSE—Baralda & Page, 2 and Penrose Sts., soon lets contract 1 story, 31 x 125 ft. brick, concrete, warehouse alterations, addns. Study, Farrar & Maiers, Arcade Bldg., 512 Olive St., Zone 1, archts. CD 11/10/47—ENR 12/11/47.

Pa., Phila.—SALES and SERVICE—Savery, Scheetz & Gilmour, archts., 1520 Locust St., soon lets contract 3 story, 18x100 ft., brick sales and service bldg. addn. for Singer Sewing Machine Co., 149 Broadway, New York, N. Y. Approx. $68,000.

Tex., Dallas—WAREHOUSE, etc.—Conroe Mfg. Co., 2603 Fairmount St., J. R. Cassidy, soon lets contract 1 story, 163x290 ft. steel, masonry type warehouse and factory with small office space, compete slab fdn., $26,000. Eugene Davis, 2603 Fairmont St., Dallas, archt. CD 2-11—ENR 2-17, under L. B.

Tex., Dallas — FREIGHT TERMINAL — Southern Express Inc., 3131 Oak Lane, soon lets contract 36,000 sq. ft. steel terminal warehouse, $230,000. Herman G. Cox, Neil P. Anderson, Ft. Worth, archts. CD 9/23—ENR 9-30, under LB.

Tex., Houston—WAREHOUSE etc.—Quaker Rubber Corp., 2315 Polk Ave., soon lets contract 1 and 2 story, 45,000 sq. ft., steel, brick, hollow tile walls, masonry warehouse and office, concrete slab fdn., air-conditioning, $250,000. Irving S. Kelly & Assoc., 2317 Austin St., archts. CD 2-3—ENR 2-17.

LOW BIDDERS

Kan., Lyons—SALES and SERVICE—Young Motor Co., Lyons, auto garage and sales bldg., from J. S. Preisen, 309 S. Washington St., Wichita, **$88,196**. Thomas & Harris, 125½ N. Topeka St., Wichita, archts.

La., Shreveport—WAREHOUSE, etc.—Henry E. Swartz, archt., Giddens Lane Bldg., Apr. 5, brick, steel, warehouse and office, 2131 Texas St., for American Radiator & Standard Plumbing Co., 1616 Southern Ave., from W. C. Gray Constr Co., 861 Grimmet Dr., Approx **$87,300.** CD 3-1—ENR 4-7.

O., Springfield — DISTRIBUTION — Omar, Inc., E. W. Tasse, mgr., 291 E. Mound St., Columbus, 1 story, 40x148 ft. masonry sales distr. bldg., S. Yellow Springs St., from Frank Caranna, 1515 Mitchell Blvd.

Tex., San Antonio — WAREHOUSE — Merchants Biscuit Co., 1502 Medina St., Apr. 7, 100x150 ft., steel warehouse, concrete slab fdn., summer and winter air-conditioning, etc., from Wm. Goetz & Sons, 904 Frost Bank Bldg., **$83,204.** CD 3/21—ENR 3/24.

CONTRACTS AWARDED

Calif., Burlingame—FACTORY—Mrs. Bentzen's Danish Cookie Co., 2700 Geary Blvd., San Francisco, 10,000 sq. ft. cookie factory to R. A. White, 133 Occidental Ave., Burlingame, Approx. **$100,000.**

Calif., Culver City—PLANT—Hughes Aircraft Co., Culver City, 2 story, steel frame, Unit C plant addn., to T. S. Construction Engineering, Inc., 600 St. Paul Ave., Los Angeles, **$150,000.** CD 2-11—ENR 3-3.

Calif., Vernon — WAREHOUSE, etc. — Central Mfg. Dist., General Electric Co., 4814 Loma Vista, 35,000 sq. ft. refrig. con. warehouse and office, to W. P. Neal, 4814 Loam Vista St., **$150,000.**

Idaho, Pocatello — PLANT — Westaco Chemical Corp., 405 Lexington Ave., New York, N. Y., plant addn., separate contracts. Approx. **$70,000.** United Engineers & Constructors, Inc., 1401 Arch St., Phila., Pa., engrs.

Ill., East Joliet (Joliet P.O.)—GARAGE, etc.—Elgin Joliet & Eastern R.R., F. G. Campbell, ch. engr., Joliet, 54x132 ft., concrete garage, yard office and locker bldg., north end of yard, yard office and sanitary facilities, south end of yard, own forces. **$100,500.** CD 3/30—ENR 4/21.

Ill., Schiller Park—FACTORY—Soreng Mfg. Corp., 1901 N. Cicero St., Chicago, Ill., 1 story, brick, steel factory and office, separate contracts. Approx. $725,000. Kerstad Eng. Co., 3450 N. Kostner St., Chicago, Ill. engrs. CD 2-23—ENR 2-24.

Ind., Fort Wayne — WAREHOUSE — Valley Martin Service Co., Parkersburg, W. Va., 1 story, 90x227 ft. brick, concrete, steel warehouse, Brooklyn Ave., to McDonough Constr. Co., Parkersburg, W. Va., Approx. **$70,000.** Awarded 3/30. A. K. Hofer, 301 Dimer Bank Bldg., assoc., archt. Glen Hancock, Atlas Bldg., Charlestown, W. Va., archt.

Ind., Indianapolis—PLANT—Mouldings, Inc., 730 E. Washington St., 1 story, brick, steel, concrete mfg. plant, S. Holt Rd. and Farnsworth Ave., to Industrial Operations, Inc., 319 N. Penn. St., Indianapolis, Approx. **$500,000.** Awarded 3/30.

Ia., Davenport—FACTORY—Englehart Mfg. Co., 107 Scott St., factory, to John H. Soller Constr. Co., 717 Harrison St., **$125,000.**

Kan., Garden City — WAREHOUSE — Merchants Biscuit Co., 5842 Walnut St., **Denver**, Colo., branch warehouse, to Martin K. Eby Constr. Co., K G & E Ripley Station, 45 and Arkansas Sts., Wichita, **$82,790.** Bids 4/4. CD 3/25—ENR 3/31.

Kan., Penokee — GRAIN ELEVATOR — Farmers Union, Penokee, grain elevator, to Chalmers & Borton, Hoke Bldg., Hutchinson, **$136,000.**

Kan., Winona—GRAIN ELEVATOR—Porter Marshall, Clay Center, and Ward Marshall, Salina, grain elevator addn. Owner builds. **$150,000.**

Ky., Louisville — WAREHOUSE — Western Trucking Co., c/o contractor, warehouse, to Fred Lichtefeld & Son, 989 Logan St., Approx. **$68,000.** CD 3/16—ENR 3/24.

La., New Orleans—PLANT—American Radiator & Standard Sanitary Corp., c/o contractor, plant—C. H. P. Farnsworth & Co., 1515 S. Salcedo St., Approx. **$68,000.** CD 3/11—ENR 3/17.

Mass., Mansfield—WAREHOUSE, etc.—Ralston Purina Co., R. H. Dearborn, 150 Causeway St., Boston, 1 story, 50x200 ft., brick warehouse and offices, to Walter H. Parker, Inc., 23 Main St., Taunton, **$70,000.** Wm. S. Baker, 145 School St., Concord, N. H., archt.

Minn., Brainard — GARAGE-WAREHOUSE, etc.—Crow Wing Co-operative & Light Co., J. F. Zumwalt, mgr., general contract 1 and 2 story garage, warehouse, office, to W. V. Roedter, 200 Builders Exchange Bldg., Duluth, **$126,689.** Bids 3/18. CD 3/2—ENR 3/10.

Miss., Clarksdale—PLANT—Koelling Bottling Co., c/o contractor, bottling plant, to Harvey D. Kantor & Son, Clarksdale, Approx. **$75,000.**

Miss., Meridian — PLANT, etc. — General Box Co., c/o McNair & Archer, archts., Rosenbaum Bldg., plant and office, to L. B. Priester & Son, Meridian **$343,816.** CD 11/11—ENR 11/18, under LB.

Mo., St. Joseph—SHOP—M. K. Goetz Brewing Co., 2 St. and Albermarle St., shop, to Lehr Constr. Co., Frederick St., **$600,000.** Everett Johns, Empire Trust Bldg., archt.

Mo., St. Louis—FACTORY—Bemis Bros. Bag Co., 1058 S. Vandeventer Ave., Zone 10, 1 story, 21 x 111 ft., brick, concrete factory addn., 1058 S. Vandeventer Ave., to W. C. Hartlieb Constr. Co., 4501 Chestnut St., Zone 1, Fred R. Nauman, 714 N. Woodlawn St., Kirkwood, St. Louis, Zone 22, archt.

N. J., Bridgeton — GARAGE, etc. — General Baking Co., 420 Lexington Ave., New York, N. Y., 1 story, bsmnt., 61x264 ft., brick agency bldg., garage and repair shop, to Mosick Bros., 531 E. Commerce St., Bridgeport, **$75,000.** Bids 3/10. CD 3/9—ENR 3/17.

N. J., Camden — WAREHOUSE — Fleck Co., Haddon Ave. and Line St., 1 story, brick warehouse addn., to Haverstick Borthwick Co., 1505 Race St., Phila., Pa., **$75,000.** I. Deuchick, 246 S. 15 St., Phila., Pa., archt.

N. J., Carteret — PLANT — Westaco Chemical Corp., 405 Lexington Ave., New York, N. Y., mfg. plant expan., separate contracts. Approx. **$150,000.** United Engineers & Constructors, Inc., 1401 Arch St., Phila., Pa., engr.

Pa., Berwick—STORAGE—Wise Potato Chip Mfg. Co., Berwick, brick, concrete block storage bldg., to Strausser Constr. Co., Berwick, **$75,000.** Robert A. Everman, Wilkes-Barre, archt.

Pa., Chester—RESEARCH LABORATORY—Scott Paper Co., foot of Market St., altering Research Laboratory Bldg. No. 7, to Alfred M. Hunt, 1700 Sansom St., Phila., Approx. **$68,000.** Bids 3/11. CD 3/9—ENR 3/17.

Pa., Hazleton — WAREHOUSE — George R. Stecher, Mine St., reconstructing concrete block warehouse, own forces. **$100,000.**

Pa., Kingston—GARAGE, etc.—Joseph F. Lester, 367 Market St., Phila., brick, steel garage and automobile salesroom, own forces, **$90,000.**

Pa., Lansdale — SUBSTATION — Lansdale Tube Co., Lansdale, substation, to Atlantic Eng. Co., Main and Green Sts., Phila. **$80,000.** M. Ward Easby, Inc., 1201 Chestnut St., Phila., archt.

Pa., Lebanon — WAREHOUSE — Hauer & Sons Tobacco Co., Lebanon, 1 story, concrete block warehouse, to Halderman & Savastio, Hershey, **$75,000.** Clair S. Buchart, 611 W. Market St., York, archt.

Pa., McKeesport—SINTERING PLANT—National Tube Co., McKeesport, 4 story, 158x158 ft., steel, concrete sintering plant, etc., separate contracts. Approx **$500,000.** CD 5/7—ENR 5/27.

Pa., Phila.—MEAT HANDLING—Baltimore & Ohio R. R. Co., A. C. Clarke, ch. engr., Baltimore and Charles Sts., Baltimore, Md., meat handling bldg., to Hauser Constr. Co., 1909 Chestnut St., **$100,000.** Bids 4/1. CD 3/30—ENR 4/7.

Pa., Phila. — MANUFACTURING — Blumenthal Bros., Inc., Margaret and James Sts., mfg. bldg. alterations, to Lam Bldg. Corp., 1001 Wood St., Approx. **$68,000.**

Pa., Phila.—GARAGE—Robert Hawthorne, Inc., 1701 N. 2 St., 1 story, 141x151 ft., brick garage, to R. M. Shoemaker, 1619 Sansom St., Approx. **$68,000.** Widdicombe Eng. Co., 117 S. 17 St., engr.

Pa., Phila. — STORAGE — Keystone Wire & Iron Works, 19 and Clearfield Sts., 1 story, 60x228 ft., masonry and structural steel storage bldg. addn., separate contracts. Approx. **$68,000.**

Pa., Phila.—MANUFACTURING—Peter Luciany, 1502 E. Passyunk Ave., 1 story, 92x200 ft., brick mfg. bldg., separate contracts. Approx **$68,000.** Herman Kline, 1211 Chestnut St., archt.

Pa., Phila. — BUILDING — Mashland Duraleather Co., Amber and Willard Sts., 2 story, bsmnt., 45x100 ft., brick, block bldg., to Wintz Bros., 1618 Sellers St., Approx. **$68,000.** George H. Murphy, 1621 Sellers St., archt.

Pa., Phila.—PURIFIER—Phila. Coke Co., 1601 Richmond St., gas purifier bldg., separate contracts. Approx. **$68,000.** Koppers Co., Koppers Bldg., Pittsburgh, engrs.

Pa., Phila. — PACKING PLANT — Swift & Co., 9 St. and Girard Ave., meat packing plant alterations, to Haverstick-Borthwick Co., 1505 Race St., **$70,000.**

Pa., Scranton—PLANT—Archers Brill-Mfg. Co., Lackawanna Ave., mfg. plant alterations, addns., to Breig Bros. Constr. Co., Scranton Real Estate Bldg., **$150,000.** Von Storch & Pearce, Scranton Lackawanna Trust Bldg., archts.

Pa., Scranton — FACTORY — Lindner Mfg. Co., 1043 Capouse Ave., brick factory addn., to Tabone & Barbera, 186 N. Main St., Pittston, **$150,000.** Joseph Valverde, Jr., 1146 Capouse Ave., archt.

Pa., Shenandoah —FACTORY— Shenandoah Chamber of Commerce, Shenandoah, brick, steel factory, to Schneider & Davis, Pottsville, **$235,000.** Frank Mfg. Co., 1441 Broadway, New York, N. Y., lessee. CD 7-1—ENR 7/22, under Public Bldgs.

Pa., Wayne—INDUSTRIAL—Wayne Printing Co., 104 N. Wayne Ave., industrial bldg., to Howard L. Croll, 74 St. Davids Rd., St. Davids, Approx. **$100,000.** Duffield Ashmead, Jr., Commercial Trust Bldg., Phila., archt.

S. C., Greenville — PLANT — Keys Printing Co., Greenville, plant addns. to McKoy-Helgerson Co., Greenville, **$129,613.**

Tex., Beaumont—WAREHOUSE—American Rice Growers Assn., Raywood, rice warehouse, to H. W. Matthews, 208 Front St., Orange, **$77,000.**

Tex., Dallas—GENERATOR HOUSE—Dallas Power & Light Co., 1506 Commerce St., metal frame, corrugated asbestos siding generator house, 2707 Flynn St., and 57 ft. high cooling tower, owner builds. **$325,000.** CD 2/3—ENR 2-18.

Tex., Dallas—WAREHOUSE—Vinson Supply Co., 3331 Hagger St., warehouse, to Henger Constr. Co., 1600 Dallas Natl. Bank Bldg., **$112,500.** Grayson Gill, 1913 San Jacinto St., archt.

Tex., Fort Worth — GARAGE — Lone Star Gas Co., 908 Monroe St., storage garage, to E. R. Phillips, P. O. Box 126, Waco, **$70,000.**

Tex., Grapeland — PLANT — Geier-Jackson, Inc., Grapeland, doubling capacity of cyclic-natural gasoline refining plant, own forces. **$325,000.** CD 1/5—ENR 1/29.

Tex., Houston—PLANT—American Can Co.—Southern Lockwood and Clinton Dr., 40,000 sq. ft., masonry, steel, concrete metal can making plant addn. to W. S. Bellows Constr. Co., 716 N. Everton St., Approx **$600,000.** R. E. Mayan, c/o owner, engrs. CD 12/15—ENR 12/30.

Tex., Santa Anna — PLANT — Santa Anna Silica Plant, Santa Anna, silica sand plant expan., own forces. Approx. **$90,000.**

Tex., Tyler — PLANT—Tyler Industrial Foundation, c/o Bryant Heater Co., Tyler, 1 story, 120 x 200 ft. concrete plant expans., mostly warehousing, slab fdn., to Campbell & Kay, Chandler Hy., **$95,000.** CD 3/4—ENR 3/17.

Wash., Pasco—TERMINAL—United Truck Lines, Pasco, 2 story, 60x180 ft. part bsmnt., masonry terminal, to Pete J. Young & Sons Constr. Co., E. 1211 Columbia St., Approx. **$100,000.**

UNCLASSIFIED

BIDS ASKED

About May 1

Missouri—RURAL DISTRIBUTION LINES—Lewis County Rural Electric Co-operative, Paul Hack, mgr., Lewistown, 160 mi. rural distr. lines, sys. imprvs., Lewis Co. Drazen & Assoc., 8135 Forsyth Bldg., Clayton, St. Louis 5, Mo., engrs. CD 2/27/48—ENR 3/18/48.

May 3

Pa., Phila.—RECREATION CENTERS—Dpt. Pub. Welfare, City Hall Annex, grading, surfacing, fencing, etc., Recreation Center (Playground), Loretto, Godfrey and Summerdale

Aves.; Recreation Center Playground, Leiper, Ruan and Church Sts., etc.; Recreation Center Playground, Thompson, Elkhart and Edgemont Sts., etc., Approx. $50,000 each; Burholme Recreation Center (Playground), Cottman St. and Pennway Ave., $250,000; grading, surfacing, fencing, curbing, etc., Recreation Center-Playground, 36 and Brown Sts., Approx. $50,000. Jack S. Steele Co., 1416 Chestnut St., engrs. CD 8/19/46—ENR 9/5/46.

May 4

Pa., Kutztown—UNDERGROUND, etc.—Pa. Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, electrical constr. 2300 volt underground service and emergency lighting generator, Kutztown State Teachers College. Plans deposit $2.50. Gilbert Assoc., Inc., Reading, engr.

†Texas—TRANSFORMERS—U. S. Eng., 606 Santa Fe Bldg., Galveston, transformers, appurtenances for Whitney Dam Power Plant, on Brazos River near Hillsboro, Hill Co., Inv. No. Eng-41-243-49-257.

About May 10

Missouri—RURAL DISTRIBUTION LINES—Citizens Electric Corp., C. J. Koetting, mgr., Ste. Genevieve, 30 mi. 69 KV and 9 mi. 34 KV rural distr. lines. Proj. Missouri 58 C Ste. Genevieve. Extended date. Drazen & Assoc., 8135 Forsyth Bldg., Clayton, St. Louis, Zone 5, engrs. CD 1/26—ENR 2/3.

May 10

†Virginia—GENERATORS—U. S. Eng., foot of Front St., Norfolk, two 1,250 kva alternating-current generators, Buggs Island Powerhouse, Serial No. Eng-44-110-49-169.

May 13

†Oregon—RAILROAD RELOCATION, etc.—U. S. Eng., Pittock Block, Portland, Zone 5, Southern Pacific Railroad relocation, section of State Hy. 58, distance of 2 mi. beginning in vicinity of Lookout Point Dam, Eng. 35-026-49-469. Col. O. E. Walsh, engr.

On or About May 14

†Tenn., Knoxville—CEMETERY IMPRVS.—U. S. Eng., P. O. Box 1169, Mobile, 7, Ala., Knoxville National Cemetery imprvs., incl. utility bldg. addn., paving, gas line, retaining wall, etc.

†Tenn., Nashville—CEMETERY—U. S. Eng., P. O. Box 1169, Mobile, 7, Ala., Nashville National Cemetery imprvs.

May 17

†Ia., Knoxville—ELECTRICAL SYS. and TELEPHONE EQUIPMENT—Veterans Admin., Munitions Bldg., Wash. 25, D. C., underground electrical sys., telephone equip., for veterans administration hospital. Spec. 4909, Proj. No. 8-4019. Extended date. CD 4/6—ENR 4/14.

On Or About May 18

†S. C., Beaufort—CEMETERY FACILITIES—U. S. Eng., Post Office Bldg., Savannah, Ga., addnl. facilities for Beaufort National Cemetery.

Bids Asked

Tex., Houston—RADIO STATION—Houston Baptist Missionary Union, c/o Dr. Ross Dillon & Earl C. Hankamer, Commerce Bldg., Houston. FM radio station called KHCO, Leak and McHowan Sts. $75,000.

LOW BIDDERS

Missouri—RURAL DISTRIBUTION LINES—Central Missouri Electrical Co-operative, Sedalia, Apr. 5, 307.06 mi. rural distr. lines, 35.25 mi. conversion line, Saline, Pettis and Benton Counties, from Cater Electric Const. Co., 1016 Baltimore St., Kansas City, Mo., **$415,163.** CD 3/29.

Missouri—RURAL DISTRIBUTION LINES—Northwest Missouri Electric Co-operative, L. L. Moran, pres., Savannah, Mar. 29, 316.18 mi. rural distr. lines, 37 mi. conversion lines, Nodaway, Gentry, Holt, Andrew, DeKalb, Buchanan and Clinton Counties, from Basanda Constr. Co., 1057 S. W. 11 St., Oklahoma City, Okla., **$488,000.** CD 3/23.

N. Y., Brooklyn—DUCT LINE—Bd. Transportation, 250 Hudson St., New York, Zone 13, constr. New York City Transit System Duct Line connecting the Central Office Bldg. at Jay St. and the IND, IRT and BMT Divisions subsurface railroads in Brooklyn, from William Casey & Sons, Inc., 511 E. 62 St., New York Zone 21, **$59,860.** CD 3/14.

†Oregon — TRANSMISSION LINE — Bonneville Power Admin., 729 N. E. Oregon St., Portland, Zone 8, Apr. 8, clearing 17 mi. right-of-way and construct Albany-Lebanon 115 kv transmission line, Inv. 4543, from Chas. Ross Line Constr. Co., Tigard, **$77,566.** CD 3/24—ENR 3/31.

Tex., Amarillo—STADIUM—Amarillo Independent School Dist., Amarillo, rejected bids Mar. 29, stadium, L. B. **$223,033.** CD 4/5—ENR 4/14, under LB.

Tex., Andrews—GRANDSTAND—Andrews Independent School Dist., Andrews, Apr. 5, grandstand, field house and elementary school, from Houston Hill, Midland, **$236,820.** Est. $250,000. CD 3/28.

CONTRACTS AWARDED

Texas—GAS PIPELINE—Southern Pipe Line Corp., 411 Broadway, Corpus Christi, 20 mi. 6 and 8 in. welded pipe natural gas pipeline between Edrow Field and Clarkwood, San Patricio, Co., Purchase and Hire, **$90,000.** CD 3/30.

●**Alberta**—GAS LINES—Northwestern Utilities Ltd., Edmonton, 14 mi. gathering lines, natural gas, Viking-Kinsella fields, 5 wells, Owner builds. **$2,500,000.** CD 7-27/45—ENR 8/9/45.

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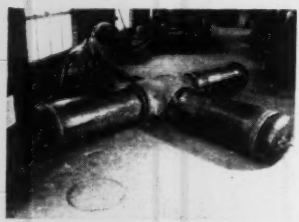
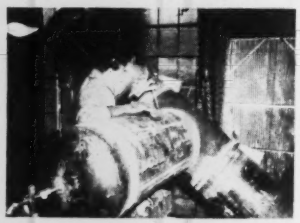
TUBE-TURN

WELDING FITTINGS AND FLANGES

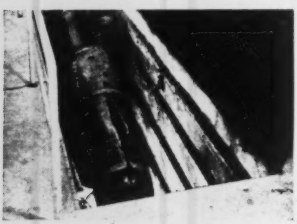


18-inch standard weight Tube-Turn welding tee and pipe laid out preparatory to assembly for hydrostatic pressure test.



Welder completing last bead in assembly. Fitting and pipe now form homogeneous, leakproof unit.

Assembly is hung in pit, massively lined with concrete. During test top grating is closed and held down by a barricade of sandbags.



Final result after hydrostatic pressure test. The straight pipe burst first, and the tee is undamaged.

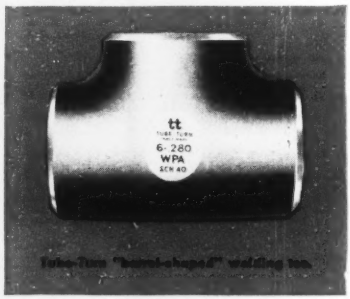
Strength through Design in Tube-Turn welding fittings

The pipe burst first!

Take an 18-inch standard weight welding tee. Take three corresponding lengths of pipe. Weld tee and pipe together. Cap the ends. Lower the assembly into a pit. Then apply hydrostatic pressure—much more than the assembly is supposed to take!

Something has to give! According to the accepted beliefs it should be the tee. But not in the case of the test pictured here. The Tube-Turn "barrel-shaped" tee was used—and the pipe burst, well before the tee was affected! Throughout numerous tests, this new type of tee has withstood at least 25 per cent more pressure than required by the formula given in ASA B16.9.

The superior strength of the tee was achieved without running up extra weight and cost, by carefully planned improvements in shape (based on the sphere, nature's strongest form for internal pressure), and by a carefully engineered distribution of metal.



Tube-Turn "barrel-shaped" welding tee.

This is a typical example of *strength through design* in Tube-Turn welding fittings, and another good reason why leading piping engineers specify Tube-Turn equipped, welded piping.

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CONSTRUCTION REPORTS-Second Section

Third Section Construction Reports on page 68

WATER SUPPLY

BIDS ASKED

April 25

Md., Towson—Comrs. Baltimore Co., Court House, 2,091 lin. ft. 15- to 21- in. rein.-con. storm drains, 2,943 lin. ft. 6 to 8 in. vitr. clay pipe, and 2,513 lin. ft. 8 and 12 in. vitr. clay pipe, extra strength, 2,909 lin. ft. 6 and 8 in. ci. watermains, sewers and house connections. Contr. 161 D. S. & W., in Dunmore, Wm. F. Neale,, ch. engr.

April 26

Va., Staunton—Bd. Supervs. Augusta Co., Staunton Contr. 1, earthen dam with compacted core of selected material approx. 85,000 cu. yd. earthwork; rock excav. of spillway channel approx. 12,200 cu. yd. etc., Contr. 2, structural steel, constructing intake structures, blow-off conduits, spillway gates and appurtenances, Contr. 3, laying approx. 76,000 lin. ft. 6- to 16-in. ci. pipe. Plans deposit $50. John S. Hale, P. O. Box 961, consult. engr.

April 28

Mo., Sheridan—City, Mrs. Fannie Wilson, clk., City Hall, WW, incl. encasement well, concrete reservoir, pump house and clear well. Riddle Eng. Co., 1324 Prospect Ave., St. Joseph, Zone 12, engrs.

Tex., Houston—Harris County Water Control & Improv. Dist. 14, G. S. Pettigrew, 4537 Avondale St., Contr. 1, WW distr. sys., $450,000. Plans deposit $30. Contr. 3, 100,000 gal. elevated steel tank and tower, $30,000. Contr. 7, 2 water supply wells, equipped, $75,000. Plans deposit $5 each. Garrett Eng. Co., 5008 Almeda Rd., engr. CD 4/13-48—ENR 4/29/48.

Tex., Levelland—City, Ray Watson, mayor, WW sys. extens. & improvs., $200,000. Joe E. Ward, 545 Nacol Bldg., Wichita Falls, engr. CD 12/27—ENR 1/20.

May 2

Fla., Winter Haven—City, City Hall, water distr. sys., incl. lines and service reconnections. Plans deposit $15. Russell & Axon, Municipal Airpt, P. O. Box 1431, Daytona Beach, consult. engrs.

Wash., College Place—City, City Hall, 20,600 ft. 6- to 12-in. c. i. steel or cement-asbestos watermains and 500,000 gal. elevated steel storage tank. Approx. $28,000. Plans deposit $20 for pipe installations, $15 for tank foundations and tank. John W. Cunaingham & Assoc., 1112 Spalding Bldg., Portland, Ore., engrs.

Man., Winnipeg—Chn. Bd. Control, Greater Winnipeg, 185 King St., pump. units, switchboard, control and motor equip. W. D. Hurst, city engr.

May 4

†California—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, erecting one 300,000 gal. welded-steel water-storage tank at Shasta Dam, Central Valley Proj., Redding, Spec. R2-53. L. N. McClellan, ch. engr.

June 8

●†Territory of Hawaii—Yards & Docks Annex, Navy Dpt., Arlington, Va., inclined shaft well pumphouse pumps and appurtenant equip. to develop 50 m.g.p.d. NOY 17287. Approx. $1,000,000. CD 10/27—ENR 11/11.

LOW BIDDERS

Calif., Manteca—City, City Hall, Mar. 28, WW improvs., from Harrison E. Conner, Box 1012, Redwood City, $86,618. L. B. Rack, 160 E. Weber St., Stockton, engr. CD 4/26—ENR 5/13.

Fla., Miami—Water & Sewer Bd., 3342 Dinner Key Dr., Apr. 7, transmission and distr. mains, Contr. Prods. Co., 3850 N. River Dr., $119,602. CD 3/30.

†Idaho—Bureau Reclamation, Lewiston, Apr. 1, water treatment plant, clear water reservoir, Nez Perce Co., from J. F. Konen Constr. Co., Lewiston, $176,363 and $89,739 respectively. CD 3/2—ENR 3/10.

La., Gretna—City, City Hall, Mar. 29, water lines, from Campbells Welding Wks., Natchez, Miss., $61,827. CD 3/15—ENR 3/17.

N. J., Camden—City, Mar. 23, watermains, Cooper St., from Eugene F. Verge, Inc., Broadway and Cooper St., $89,268. CD 3/9—ENR 3/17.

O., Mansfield—City, E. T. Garrison, Service Safety Dir., Mansfield, Mar. 30, Clearfork Pumping Station, from Birmingham Constr. Co., 208 Hanna Bldg., Birmingham, Mich., $129,295. CD 3/14—ENR 3/17.

Tex., Austin—City, City Hall, Apr. 5, water distr. sys. improvs., approx. 20,000 ft. 30 in. steel cylinder concrete pipe, from Barry Constr. Co., 4108 Old Spanish Trail, Houston, $82,210; 2 m.g. water reservoir in Highland Park West, from E. B. Snead Constr. Co., P. O. Box 577, $79,665.

CONTRACTS AWARDED

Colo., Englewood—City, water pipe, fittings, to Waterworks Sales Co., 200 W. 48 Ave., Denver, $64,878. CD 3/18—ENR 9/2.

Conn., Middletown—City, P. Wks. Dist., Middletown, watermains, E. Main St., W. Silver St. to Russell St., own forces. $50,000. S. C. Cannon, City Hall, city engr.

Ga., Bowman—City, City Hall, water distr. sys., to E. N. Murray, Buena Vista, $50,998. CD 8/29/45—ENR 9/20/45.

Kan., Tribune—City, City Hall, 16,300 ft. 8 in. transite pipe, running from well to city tower, to T. F. Devlin, 1410 Marion St., Denver, Colo., Approx. $10,000.

Ky., Paducah—City, City Hall, pump. station, watermains, own forces. Approx. $100,000.

O., Toledo—City, George Van Dorp, water comr., 110 Cherry St., 65 m. g. p. d. c. pumping unit at Collins Park water station and electrical installation, to Iravo Corp., 4816 Prospect St., Cleveland, $78,776 and $33,900 respectively; pipes, valves and meter installation, to Johnson Plumbing & Heating Co., 1510 Monteaim St., $44,163. Grand total $156,839. Bids 3/8, awarded 3/28. CD 1/21—ENR 2/3.

Pa., Doylestown—Doylestown Boro, waterlines, to United Contg. Co., 117 N. 12 St., Allentown, Approx. $28,000. William H. Boardman, 426 Walnut St., Phila., engr.

Pa., Maytown—E. Donegal Twp., c/o Maytown Natl. Bank, Maytown, water distr. lines, to W. Simon Look, Honeybrook, $75,000. Capitol Engineers, Dillsburg, engrs.

Pa., North Warren—North Warren Municipal Auth., T. Peterson, chn., North Warren water supply and distr. sys., to Keystone Constr. Co., Meadville, $86,700. Est. $105,000-$111,000. Awarded 4/7. The Chester Engineers, 210 E. Parkway, Pittsburgh, engrs. CD 12/13/45—ENR 12/27/45.

S. C., Denmark—Town, J. Z. Brooker, mayor, Denmark, water softening plant and extens., adding to present sys., to M. L. Gaines, Inc., 2307 Devine St., Columbia, Bids 3/28. The Quattlebaum Eng. Co., Johnston, engr.

†Tex., Fort Bliss (El Paso P. O.)—Office of Post Quartermaster, Contr. Div., Fort Bliss, water, gas and sanitary sewers, to Brown-Olds Plumbing & Heating Co., 716 N. Piedras St., El Paso, $62,849. Est. $65,000. Bids 2/15.

Tex., Houston—James H. Edmonds, Oak St., waterlines, own forces. $36,000.

Tex., Malakoff—City, J. D. Waller, mayor, water supply sys., incl. deep water well, 35,000 lin. ft. lines, water tower, 27 fire hydrants, 8 in. distr. line sys., to Ferguson Constr. Co., 5006 Second Ave., Dallas, $47,336. Est. $125,000. Bids 3/30. CD 3/8—ENR 3/10.

SEWERS, WASTE DISPOSAL

BIDS ASKED

April 25

N. Y., College Point—Dpt. P. Wks., Municipal Bldg., New York, Zone 7, Contr. R-6 alterations to final tanks at Tallman's Island Sewage Treatment Plant, on upper East River at Powell's Cove, Queens Boro. Plans deposit $5.

Ont., Waterloo—R. G. Given, municipality clk., sewers. E. Oke, Waterloo, engr. CD 7/24/46—ENR 8/8/46.

April 27

Fla., Tampa—City, Dpt. P. Wks., City Hall, storm sewer Proj. S-2-49. CD 4/4—ENR 3/17.

April 28

California—State Div. Hys., State Bldg., Los Angeles, drainage facilities in Atlantic Blvd., at Patata St., Los Angeles Co. G. T. McCoy, P. Wks. Bldg., Sacramento, state hy engr.

Tex., Houston—Harris Co. Water Control & Improv. Dist. 14, G. S. Pettigrew, 4537 Avondale Rd., Contr. 2, sewer collection sys. $745,000; Contr. 4, sewage treatment plant, $150,000. Plans deposit $30 each. Garrett Eng. Co., 5008 Almeda Rd., engrs. CD 4/13—ENR 4/29.

Tex., Levelland—City, Ray Watson, mayor, sanitary sewerage sys. extens., improvs. $500,-000. Joe E. Ward, 545 Nacol Bldg., Wichita Falls, engr. CD 12/27—ENR 1/20.

Wis., Milwaukee — Milwaukee Sewerage Comn., Jones Island, furnishing sluice gates, valves, floor stands, plug valves, floor boxes and ci. pipe for sewage treatment plant extens. $132,500. Plans deposit $5. J. L. Perehoe, ch. engr. CD 12/4/43—ENR 12/9/43.

April 29

Conn., Waterbury—Bd. P. Wks., City Hall, Mad. River Interceptor. Plans deposit $25. Malcolm Pirnie Engineers, 25 W. 42 St., New York, N. Y., engrs. Henry C. Whitlock, city engr. CD 2/1/46—ENR 2/21.

April 30

Pa., Bloomsburg—Town, Town Hall, sewage disposal plant, $350,000. Gannett, Fleming, Corddry & Carpenter, 600 N. 2nd St., Harrisburg, engrs. CD 4/18/46—ENR 5/2/46.

Pa., Danville—Danville Boro, Danville, disposal plant, sewerage sys. $300,000. Gannett, Fleming, Corddry & Carpenter, 600 N. 2nd St., Harrisburg, engrs. CD 8/2/45—ENR 8/23/45.

●Pa., Scranton—City, J. T. Halpin, City Hall, brick, concrete block sewage disposal plant, $8,000,000. Gannett, Fleming, Corddry & Carpenter, 600 N. 2nd St., Harrisburg, engrs. CD 1/4—ENR 1/20.

May 2

Fla., Winter Haven—City, 59,400 lin. ft. 6 to 21-in. vitr. clay sewer lines, force mains, sewage lift stations, sewage treatment plant. Plans deposit $25. Russell & Axon, P. O. Box 1431, engrs. CD 8/3/45—ENR 8/23/45.

Ont., Etobicoke—Etobicoke Twp., S. Eakersley, clk., Islington, rein.-con. sewage treatment plant, Mimico Creek. Approx. $400,000. F. McArthur, 4946 Dundas St., Islington, engr. CD 10/21—ENR 11/25.

May 3

†Tex., Camp Hood (P. O. Killeen)—U. S. Engr., 606 Santa Fe Bldg., Galveston, sanitary sewer lines $75,000; sewage treatment plant, $85,000. CD 7/31/47—ENR 8/21.

May 16

●Va., Lynchburg—At office Dr. Joseph E. Barrett, of State Dpt. Mental Hygiene & Hospitals, 9 N. 12 St., Richmond, incinerator at Lynchburg State Colony. Approx. $1,500,000. CD 4/14—ENR 4/29/48.

LOW BIDDERS

Ala., Enterprise—City, rejected bids Mar. 30, sanitary sewer imprvs. Will readvertise. CD 2/11—ENR 3/13.

Calif., San Diego—City, Civic Center Bldg., Mar. 29, sewers in Torrey Pines Rd., etc., from H. H. Peterson, 3340 Harasthy St., $122,336.

Calif., Torrance—City, 1511 Cravens Ave., Mar. 22, sewers in Walteria Sewer Dist., approx. 7 mi. 8 and 12 in. sewer pipe, from Wycetch Constr. Co., 3333 Broadway, Long Beach, $134,545.

Calif., Willows—City, City Hall, Apr. 1, sewer treatment plant, from J. Masters Co., 6694 E. Tulare St., Fresno, and E. P. Kick, 608 Lind Ave., Fresno, $136,646.

●Conn., Bridgeport—City, Peter Brewster, dir. P. Wks., City Hall, Apr. 7, contr. 2, sewage disposal, sewage treatment plant, primary sedimentation type, equip. for removal of grit and screenings, sewage pumping, sedimentation, skimming, chlorination and sludge disposal by vacuum filtration and incineration, East Side at Seaview Ave. and Walker St., from Westcott Constr. Co., 95 High St., Attleboro, Mass., $1,498,200. Est. $1,500,000. CD 3/8—ENR 3/10.

La., New Orleans—Sewerage & Water Bd., sanitary sewer Proj. 189-S, from A. N. Goldberg, Inc., Maison Blanche Bldg., $102,669.

Mich., Lansing—City, City Hall, Mar. 21, general contract city garbage treatment and sewage disposal plant extens., from Darin & Armstrong, 2041 Penkell Ave., Detroit, $575,-000***piping and valves, from C. B. Whalen Co., 411 Curtis Bldg., Detroit, Zone 2, $61,000***heating, plumbing and gas piping, from R. L. Spitzley Co., 1260 W. Fort St., Detroit Zone 26, $50,700***tank, gas fired, from Chicago Bridge & Iron Co., 2407 McCormick Bldg., Chicago, Ill., $53,300. Est. $3,500,000. CD 2/21—ENR 2/24.

O., Salem—City, laying 5,000 ft. storm sewers, from Silvestri Bros. Constr. Co., 713 Andrews Ave., Youngstown, $91,734.

Pa., Pennhurst—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, Apr. 5, sanitary sewers imprvs. at Pennhurst State School, from Continental Constr. Co., 1539 Race St., Phila. Zone 2, $149,149. CD 3/16—ENR 3/24.

Tex., Angleton — City, Carlos Masterson, mayor, Mar. 31, sewage disposal plant, from R. F. Jordan Constr. Co., P. O. Box 266, Angleton, $89,982. Est. $115,000. CD 3/10—ENR 3/17.

Tex., Beaumont—City, Otto Plummer, mayor, Apr. 4, storm sewers Usan St., from Trotti & Thomson, Inc., 2945 Crockett St., $57,972. R. C. Black, city engr. CD 3/22.

Tex., Friona—City, c/o Mack Bainum, mayor, Friona, Mar. 31, sewer imprvs., incl. sewer lines, sewage treatment plant, from S. G. Stockton, Amarillo, $88,486. CD 3/16—ENR 3/24.

Tex., Irving—City, Hans Smith, mayor, Mar. 23, sanitary sewer line extens., from Stimson Corp., 801 S. Austin St., Dallas, $50,944; lift station, treatment plant, from H. F. Allison, 7010 Junius St., Dallas, $90,443. CD 3/2—ENR 3/10.

CONTRACTS AWARDED

Calif., Huntington Park—City Council, 6550 Miles Ave., Compton Creek No. 1, concrete pipe storm drain, to Burch & Bebek 2803 Los Flores Blvd., Lynwood, $390,662. Bids 3/21.

Kan., Wichita—City, City Hall, drainage and sewer repairs, to W. B. Carter, 1224 N. Broadway, $73,881. L. K. White, city engr.

Neb., Omaha — Douglas County Sanitary Sewer Dist. 5, Fred Gilmore, secy., Loveland School Bldg., West Pacific St., sanitary sewerage sys., to Peter N. Kruse, Spencer, Ia., $129,470. Est. $143,989. Bids 4/6. CD 3/17—ENR 3/24.

N. J., Middlesex—Joint Meeting of City of Plainfield, North Plainfield Boro and Dunellen Boro, City Hall, Plainfield, imprv., enlarging joint sewage disposal plant Contr. B, to Newton A. K. Bughee & Co., Norman and Oakland Sts., Trenton, $146,800. Bids 4/3. CD 3/3—ENR 3/10.

N. M., Taos—Town, Mrs. E. A. Perrault, clk., Taos, sanitary sewer and municipal water supply sys. addns., incl. sewage treatment plant and elevated steel water tank and tower, to Lippert Bros. Inc., 2800 N. Santa Fe St., Oklahoma City, Okla., $103,991. Est. $175,000.

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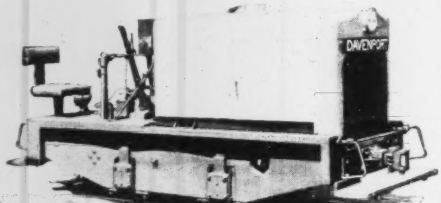

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EARLE GEARS

Bids 3/5, awarded 3/21. R. E. De Roit & Co., 1275½ E. Water St., Santa Fe, arch'ts.

N. Y., Freeport—Bd. Sewer Comrs., Municipal Bldg., 46 N. Ocean Ave., Lateral Sewer Dist. 11, approx. 11,300 lin. ft. 8 in. pipes with 5 in. house laterals to curb, manholes, appurtenances, to T. & T. Contr. Co., 1066, 60 St., Brooklyn, Zone 19, **$131,960.** Bids 3/21. CD 3/3—ENR 3/10.

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, Regulator 53 alterations, addns., Contr. R-19, for Wards Island Sewage Treatment Works, Brook Ave. and Bruckner Blvd., Bronx Boro, to Cleverdrook, Inc., 420 Lexington Ave., Zone 17, **$81,320.** CD 2/14—ENR 2/17.

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, step aeration conduit, Contr. R-18, at Wards Island Sewage Treatment Works, Wards Island, to Spearin, Preston & Burrowes, Inc., 50 Church St., Zone 7, **$131,770.** Bids 3/2. CD 2/3—ENR 2/17.

O., Willoughby—Village, Town Hall, 1,310 ft. 45 in. concrete storm sewer South and Wood Sts. from Chagrin River to intersection of Wood and Barber; 1,530 ft. 24-to 36-in. concrete storm sewer Barber Ave., Center St. and Brown Ave., from Wood St. and Barber Ave. to Waldamere Ave. by way of Barber Ave., Center and Brown Sts., to Continental Constr. Co., 19615 Nottingham Rd., Cleveland, **$88,300.** Est. $81,000. C. S. Fullerton, 128 N. St. Clair St., Painesville, village engr. CD 11/22—ENR 12/23.

Pa., Phila.—Dpt. Pub. Wks., City Hall Annex, sewers and grading Upsal St., to James D. Morrissey, Inc., 9119 Frankford Ave., **$76,699;** sewers for new housing, various locations, to Reale Constr. Co., 993 Carpenter St., **$68,086.** Bids 3/25. A. Zane Hoffman, c o owner, ch. engr.

Tex., Houston—James H. Edmonds, Oak St., sanitary sewers and drainage, own forces, **$60,000.**

Wash., Spokane—City, City Hall, Sect. D, Division St., sect. of sewer proj., to C. A. Power, E. 915 Marietta St., **$123,700.** Est. $129,735. Bids 3/24. CD 3/3—ENR 3/10.

BRIDGES

BIDS ASKED

April 28

†Georgia—U. S. Eng., P. O. Box 1169, Mobile, 7, Ala., Tanyard Creek Bridge, Bartow Co., Serial No. Eng-01-076-49-136. Extended date CD 4/4—ENR 4/7.

†Georgia—U. S. Eng., P. O. Box 1169, Mobile, 7, Ala., bridge over Allatoona Creek, Bartow Co., Serial No. Eng-01-076-49-137. Extended date, CD 3/23—ENR 3/31.

May 3

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, reconstructing roadway on steel structure and east approach of the City Island Bridge over Pelham Bay Narrows, Bronx Boro. Plans deposit $25.

About May 15

Pa., Scranton — Comrs. Lackawanna Co., Court House, bridge and repairing bridges, $100,000. Plans deposit $25. S. G. Mastriani, Court House, engr.

LOW BIDDERS

California—State Div. Hys., State Bldg., Los Angeles, Apr. 7, rein.-con. girder bridge across Santa Fe Dam outlet works on San Gabriel River about 1.5 mi. southeast of Monrovia, Los Angeles Co., from C. R. Tuttle Co., 268 Belmont Ave., Long Beach, **$65,560;** rein.-con. bridge and grade approaches apply bit. surf. 0.34 mi. across Sweetwater River about 16 mi. south of Julian, San Diego Co., from Thomas Constr. Co., Newhall, **$63,083.** CD 3/14—ENR 3/17.

Kentucky—State Hy. Dpt., Frankfort, Apr. 4, concrete arch culverts and 0.057 mi. approaches, culvert for Bull Creek and culvert for Hell for Certain Creek, S. 165 (3) 05, SP 66-72, Leslie Co., from Meters & Green, Hazard, **$63,690.** CD 3/9—ENR 3/17.

● **Kentucky**—State Hy. Dpt., Frankfort, Apr. 5, 200 ft. through truss span bridge at Leon, Grayson-Sandy Hood Rd., S 268 (9)-2, Carter Co., from Allied Structural Steel Contractors, 20 S. Wacker Dr., Chicago, Ill., **$89,858**;** concrete bridge traffic bound river gravapproaches Eagle Creek, near Glencoe, Glencoe-Bromley Rd., S 404 (5) 5P 39-33, 94-293, Gallatin and Owen Counties, from Terry & Steadman, Inc., Bay City, Mich., **$129,189**;** concrete culvert and h. conc approaches, near Kingston, Richmond-McKee Rd., F 129 (5) SP 76-51, Madison Co. from Allen-Codell Co., Inc., Winchester, **$53,658**;** bridge over Cumberland at Loyall, 0.538 mi. approaches, Harlan-Pineville "Rd., SP 48-168, Harlan Co. from Lyons & Breeden, Rogersville, Tenn., **$84,188.** CD 3/23—ENR 3/31**bridge substructure and 1.573 mi. approaches, across Cumberland River, Monticello-Burnside Rd., SP 100-155, Pulaski Co., from R. R. Dawson Bridge Co., Bloomfield, **$188,670**** superstructure, bridge over Cumberland River, Monticello-Burnside Rd., S. P. SP 100-155, Pulaski Co., from Mt. Vernon Bridge Co., Mt. Vernon, O., **$680,795.** CD 3/16—ENR 3/24.

Kentucky—State Hy. Dpt., Frankfort, received no bids Apr. 5, 200 ft. through truss span bridge and 0.125 mi. approaches, at Leon, Grayson-Sandy Hood Rd., S 268 (9) SP 22-68, Carter Co., CD 3/23—ENR 3/31.

Massachusetts — Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston. Mar. 29, reconstructing fender piers bridge on Auto Rt. 1 over Merrimac River, Newburyport-Salisbury, from McKie Lighter Co., 470 Atlantic Ave., Boston. **$88,448.** CD 3/16—ENR 3/24.

CONTRACTS AWARDED

Mississippi—State Hy. Dpt., Jackson, bridge on 0.118 mi. U. S. Hy. 80 through Meridian, F. A. Urban Grade Crossing Proj. UGI 251 (5), Lauderdale Co., to Pigford Bros., Meridian, **$353,461.** Awarded 3/29. R. A. Harris, Jackson, hy. engr.

●**New York**—Bureau Contracts & Accounts, Albany, bridge and reconstruction 6.01 mi. county road from Stockholm Center easterly toward Lawrenceville, St. Lawrence Co., to Law Bros. & A. J. Leaf, Herkimer, **$782,276** ***bridge, reconstruct 5.24 mi. Route 14, Ontario Co., to Serafin Constr. Co., Inc., Conklin Rd., Binghamton. **$753,277.** Bids 2/16. CD 2/18—ENR 2/24, under LB.

N. Y., Delhi—At office Malcolm MacPherson, supt. Delaware Co., Page Ave., Contr. 1, Dunraven-New Kingston County Rd. Proj. 46, 0.1 mi. roadway, superstructure, abutments and approaches, grading and fdn. course, Bridge 8-1, Contr. 2, East Masonville-Sidney Center County Rd. Proj. 48, 0.02 mi. superstructure, abutments, approaches, grading and fdn. course, Bridge 25-1, to LesStrong Constr. Co., Whitney Point. **$53,981.** Bids 2/29. CD 3/16—ENR 3/17.

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, reconstructing roadway, sidewalks and truss bearings and altering operators house of the University Heights Bridge over Harlem River between Manhattan and Bronx Boros. to Peerless Constr. Co., 280 Madison Ave., Zone 16. **$377,565.** Bids 3/22. CD 3/1—ENR 3/3.

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, reconstructing, widening westerly upper roadway on Manhattan Plaza of Manhattan Bridge over East River between Manhattan and Brooklyn Boros. to Nassau Constr. Co., 103 Park Ave., Zone 17. **$244,908.** CD 2/7—ENR 2/10.

Oklahoma—State Hy. Dpt., Oklahoma City, Zone 5, 7 concrete, steel bridges on new route of U. S. 75 across Deep Fork River bottoms south of Okmulgee, Okmulgee Co., to Henryetta Constr. Co., Henryetta. **$376,457** est. $434,422***concrete, steel bridge over Elm Fork River St. Hy. 9, south of Granite, Greer Co., to S. S. & W. Constr. Co., Insurance Bldg., Oklahoma City. **$55,985** est. $62,783***bridge over Pond Creek on U. S. 62 at New Castle, McClain Co., to Metropolitan Paving Co., 1600 W. Reno St., Oklahoma City, Zone 3. **$50,378** est. $51,000. Grand total $482,820. Bids 4/5, awarded 4/6. CD 3/30.

Pa., Oreland—The Reading Co., E. L. Gosnell, ch. engr., Reading Terminal, Phila., Zone 1, grade crossings, (new and remodel), overpass, driveways and parking facilities, to Tri-County Constructors, Elkins Park. Approx. **$100,000.** CD 3/4—ENR 3/17.

Pa., Warren—Pennsylvania R. R. Co., J. L. Gressitt, ch. engr., Broad St. Station Bldg., 1617 Pennsylvania Blvd., Phila., steel superstructure on rebuilt railroad bridge over Allegheny River, to American Bridge Co., Frick Bldg., Pittsburgh. **$240,000.** Est. $50,000. CD 11/8/45—ENR 11/29/45.

STREETS AND ROADS

BIDS ASKED

About June 1

Pa., Scranton — Comrs., Lackawanna Co., Court House, road paving and repairs. $50,000. S. G. Mastrani, Court House, engr. CD 3/27/47—ENR 4/17/47.

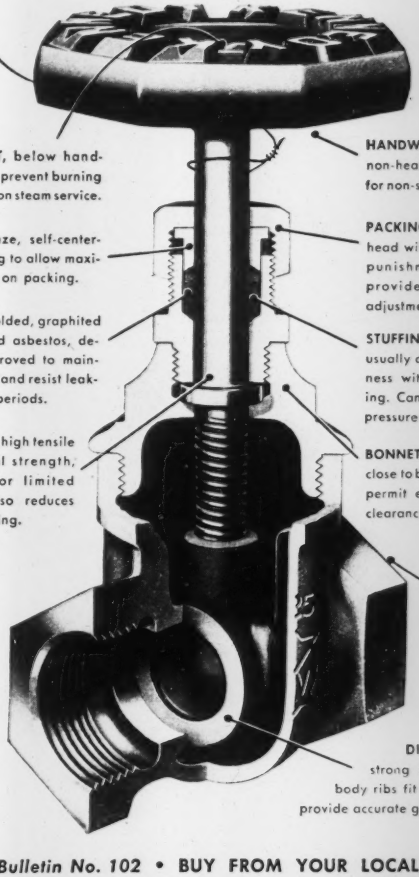
LOW BIDDERS

California—State Div. Hys., State Bldg., Los Angeles, Apr. 7, plant mix surf. 6.7 mi., constr. rein.-con. slab bridge on Ridge Route between 0.3 mi. north of Los Alamos Creek and 2.3 mi. south of junction with State Rt. 50, Los Angeles Co., from Peter Kiewit Sons Co., 345 Kieways Ave, Arcadia. **$874,114.** CD 3/14—ENR 3/17.

●**Kentucky**—State Hy. Dpt., Frankfort, Apr. 8, conc. 12.959 mi., Bear Wallow-Cranmer Rd., F 28 (5) F 7 (5), SP (5-12) (50-40), Barren and Hart Counties, from Waters Constr. Co., Elizabethtown, and R. E. Gaddie, Bowling Green. **$503,748*****grade, drain 2.589 mi., Grayson-Olive Hill Rd., FI 13 (4), SP 22-448, Carter Co., from Highland Constr. Co., 644 Baxter St., Louisville. **$233,015***** b. conc. Class C-1 and A-2 seal 35.348 mi. SP MP Group 12, Caldwell and Crittenden Counties, from Corum & Edwards, Madisonville. **$106,530***b. conc. Class F 55.131 mi. SP Group 14(1949), Carter, Elliott and Rowan Counties, from Sam Finley, Inc., 1615 Cleveland Ave., S. W., Roanoke, Va. **$269,893***b conc. Class F 23.002 mi. SP Group 14-A (1948), Carter Co., from L. P. Cavett Co., Lockland, O. **$106,576***b. conc. Class F 32.129 mi. SP Group 14-B (1949) Elliott and Rowan Counties, from Gay Coleman Constr. Co., Lexington. **$200,162***b. conc. Class F 26.886 mi. SP group 15(1949), Harlan Co., from Kentucky-Virginia Stone Co., Middlesboro. **$129,809***b. conc. Class C-1, 17.9 mi. RS group 4(1949), Montgomery Co., from A. W. Walker & Son, Mt. Sterling. **$75,421***** traffic bound limestone 7.393 mi. Dixon-Vanderburg-Manitou Rd., Webster and Hopkins counties, from L. G. Arnold, Inc., Eau Claire, Wis., **$14',800.** CD 3/23—ENR 3/31.

Design and Engineering Put EXTRA Value In This KENNEDY VALVE

KENNEDY STANDARD BRONZE GATE VALVE, FIG. 27, non-rising stem. Conservatively rated for services up to 125 Steam, 175 Water, Oil or Gas. ¼" through 3" sizes available.



WHEEL NUT, below handwheel level to prevent burning palm of hand on steam service.

GLAND, bronze, self-centering, extra-long to allow maximum take-up on packing.

PACKING, molded, graphited and lubricated asbestos, designed and proved to maintain resilience and resist leakage for long periods.

STEM, bronze, high tensile and torsional strength, non-rising for limited headroom, also reduces wear on packing.

HANDWHEEL, malleable iron, non-heating design, large size for non-slip, comfortable grip.

PACKING NUT, bronze, heavy head withstands pipe wrench punishment, extra threads provide increased packing adjustment.

STUFFING BOX, bronze, unusually deep to provide tightness without jamming packing. Can be repacked under pressure wide open.

BONNET, bronze, large hexes close to body increase rigidity, permit easier removal when clearances are close.

BODY, bronze, rugged construction, straight passageway minimizes flow resistance, disc clears passageway in full open position.

DISC, bronze, simple, strong mechanism. Interior body ribs fit channels on disc to provide accurate guide.

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Louisiana—State Hy. Dpt., Baton Rouge, Apr. 16, gray. base course, asph. 3.477 mi. Holly Ridge-North Hy. State Rt. 550, S. P. 185-01-02, F. A. S. S-67-(1), Richland Parish, from Central Constr. Co., Monroe, **$138,118.** CD 3/16—ENR 3/24.

Maryland—State Hy. Dpt., Baltimore, Apr. 6, b. conc. 2.86 mi. Spec. B, along U. S. Rt. 1, Belair Rd., Contr. B-588-145, Baltimore Co., from Harry T. Campbell & Sons Corp., Towson, **$118,935*****,1.812 mi. Spec. B, along U. S. Rt. 140, Reisterstown Rd., Contr. B-589-415 and B-590-415, Baltimore Co., from Bituminous Constr. Co., 3301 Ridgewood Ave., Baltimore, **$61,777.** CD 3/30***b. conc. 11.5 mi. Sect B, along U. S. Rt. 113, Proj. WO 301-115, Worcester Co., from T. B. Gatch & Sons, Inc., 5928 Belair Rd., Baltimore, slag **$188,595*****b. conc. 2.5 mi. Spec. B, S 179-115 and WO 309-115, Worcester and Somerset Counties, from Eastern Highways Corp., Belle Grove Rd., Brooklyn, Baltimore, slag **$87,278.** CD 3/23—ENR 3/31.

Massachusetts — Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, Mar. 29, state hy. reconstruction F. A. P. S-7(1), Buckland, from Warner Bros., Inc., Sunderland, **$130,224.** CD 3/16—ENR 3/24.

Missouri—State Hy. Dpt., Jefferson City, Apr. 7, c. conc. 4.361 mi. Rt. 71 A. P. from St. Joseph By-Pass, Proj. F 750 (5), Buchanan Co., from Atkinson-Windle Co., Chillicothe, **$174,780*****rolled asphalt-bit. surf. 0.793 mi. Rt. S. E. 4181 and S. A. (35), Sect. 6 from Ohio St. in Clinton, Henry Co., from Kissick & Son Constr. Co., Hickman Mills, **$50,365*****, cone. resurf. 2.046 mi. Rt. 77 A. P. from Big Bend Rd., southeast to Rt. 61, Proj. F 810 (3)-A, and wid. c. conc. 4.044 mi. Rt. 77 T. R. from Big Bend Rd., southeast to Rt. 61, Proj. F 810 (3)-B, both St. Louis Co., from Granite Bituminous Co., Chillicothe, **$83,207** and **$175,325** respectively. CD 3/17—ENR 3/24.

North Carolina—State Hy. Dpt. and P. Wks. Comm., Raleigh, rejected bids Mar. 29, sand asph. surface course 9.7 mi. Part 1, Old Wire Rd. from Hills Ridge Rd. southeast to Hoke Co. line, Part 2, from intersections of Maxwell Rd. north of Stedman to Intersections, N. C. 102, Betterment Sect. 3-7-30-20, Cumberland Co. 1.3; **$53,406.** CD 4/1—ENR 4/7, under LB.

Ohio—State Hy. Dpt., Columbus, Zone 15, cancelled bids to have been opened Mar. 29, bit. 4 proposals, Type T-30 and T-32, Marion and Morrow Counties, **$52,717;** rejected bids Mar. 29, bit. 2.67 mi. S. R. 99, Type T-32 on B-113, Huron Co., **$113,600.** CD 3/16—ENR 3/24.

Oklahoma—State Hy. Dt., Oklahoma City, received to bids Apr. 5, grading, drainage, minor structures 6.66 mi. U. S. 59 south of Jay, Delaware Co. **$226,390;** rejected bids Apr. 5, traffic bound surf. course 5.629 mi. farm-to-market road, Tulsa Co., L. B. **$57,559.** CD 3/30 and CD 3/28.

Texas—State Hy. Comn., Austin, cancelled bids to have been opened Apr. 27, wid'n, grading, structures and flexible base shoulders 16.598 mi. Hy. 80, Contract No. 29-2-17, FP No. FI 521 (3), Guadalupe Co. CD 4/6—ENR 4/14.

Tex., Fort Worth—City, W. O. Jones, mgr., Apr. 12, paving S. Main St., from Worth Constr. Co., 312 E. Belknap St., **$62,852.** Est. $100,000. CD 4/5—ENR 4/7.

Tex., Galveston—Galveston Co., Courthouse, rejected bids Feb. 3, community road-constr., LaMarque, Camp Wallace Rd. areas, LA **$96,000*****in LaMarque area, LB **$82,766***** Hitchcock, Alta Loma and Algoa areas, L. B. **$117,909.** CD 2/9—ENR 2/17, under LB.

Va., Lynchburg—State Hospital Bd., Dr. Joseph E. Saxe, 12 St. Date grading, roads and storm sewers at Lynchburg State Colony, from English Constr. Co., Altavista, **$78,861.** CD 3/3—ENR 3/10.

Wisconsin—State Hy. Comm., Madison, rejected bids Mar. 29, c. conc. 9.77 mi. Beekesville-Morse Rd., Contr. 1, Proj. F 04-6 (26), Ashland Co., L. B. **$307,785;** c. conc. 9.84 mi. Morse-Mellen Rd., S. T. Hy. 13, Proj. F 04-6 (27), Ashland Co., L. B. **$360,816.** CD 4/4, under LB.

CONTRACTS AWARDED

Ala., Gadsden—City, street imprvs., to W. H. Deer, Anniston, **$241,642.** Bids 3/29.

Ia., Boone—Boone Co., gray. road, to Maudlin Constr. Co., Webster City, **$50,603.** P. V. Swaim, Co. Engr. CD 3/28—ENR 4/7-14.

Ia., Perry—City, City Hall, paving, to Booth & Olson, Insurance Bldg., Sioux City, **$107,013.** R. C. Lange, city engr.

Kan., Oberlin—City, City Hall, imprv. **55** blocks streets, to Cook & Cone Contr. Co., Oberlin, **$215,187.**

Mississippi—State Hy. Dpt., Jackson, blanket of sand 1.158 mi. State Hy. 63 between Moss Point and Pascagoula, State Proj. 63-1268 (1), Jackson Co., to Mobile Dredging Co., Mobile, Ala., **$55,900.** Bids 1/25, awarded 3/31. CD 1/17.

Mississippi—State Hy. Dpt., Jackson, grading, drainage, culverts, box bridges, 4.156 mi. State Hy. 1 between Perthshire and Sherard, F. A. P. F-291 (3), Bolivar Co., and grading, drainage, culverts, bridge and alternate types, double bit. surf. tr. 0.239 mi. co. hy. between Carrollton and North Carrollton, F. A. S. P. S. 303 (1), Carroll Co., to Boyd Constr. Co., Columbia, **$188,802** and **$110,891** respectively; grading, drainage, gray. surf. course 2.457 mi. co. hy. between Golden and Red Bay, Ala., F. A. S. P. S-312 (1), Tishomingo Co., to Worsham Bros., Corinth, **$49,713.** Grand total $349,406. Awarded 3/29 and 3/31.

Nebraska—State Dpt. Roads and Irrigation, Lincoln, to Platte Valley Constr. Co., Grand Island, 0.5 mi. graveled road, culverts, one bridge, protection work, guard rail, etc. ER-S-12, Stockville south, **$87,607;** 0.9 mi. graveled road, culverts, one bridge, guard rail, etc. E. R. Proj. No. ER-S-12 (7), Stockville-Indianola, **$78,700;** sand grav. 0.5 mi., culverts, one bridge, guard rail, etc., ER-S-12 (8), Cambridge North, **$73,359.** Grand total $239,-666. Bids 3/31. CD 3/24.

●North Dakota—State Hy. Dpt., Bismarck, asph. conc. 10.9 mi. U. S. Hy. 12, Hettiger West, Proj. No. 320 (16), Adams Co., to S. J. Groves & Sons Co., 510 Wesley Temple Bldg., Minneapolis, Minn., **$272,533****asph. conc., etc. 3.715 mi. U. S. Hy. 10, Medora East, Proj. No. FAI-FI 283 (10), Billines Co., to Albert LaLonde Co., Sidney, Mont., **$318,660*****asph. conc., etc. 18.67 mi. State Hy. 5 and 3, Bottineau to Dunseith Proj. No. F-43 (4), F-160 (4) and S-427 (5), Bottineau and Rolette Counties, to The Haggart Constr. Co., Fargo, **$308,197*****asph. conc., etc. 19.872 mi. U. S. Hy. 12, Bowman East, Proj. No. F-320 (15), Bowman Co., to Inland Constr. Co., 3807 Leavenworth St., Omaha, Neb., **$190,031***** Asph. conc., etc. 12.581 mi. State Hy. 3, Rugby North, Proj. No. FAS-219 (8) and FAS-331 (6), Pierce Co., to P. J. Bradbury Constr. Co., Aberdeen, S. D., **$271,871.** Grand total, $1,791,292. Bids 4/5. CD 3/25—ENR 3/31.

●Ohio—State Hy. Dpt., Columbus, Zone 15, b. conc. resurf. 1.858 mi. S. R. 74, Adams Co., to New York Coal Sales Co., Southern Gateway & Constr. Div., 41 Broad St., Columbus, **$75,308*****bit. 52.52 mi. Butler and Warren Counties, and bit. 52.52 mi. Clermont and Clinton Counties, to L. E. Cayvett Co., 511 Shepherd Ave., Cincinnati, **$72,917** and **$63,171** respectively******bit. 20.87 mi. Harrison, Holmes and Tuscarawas Counties, to Edgar Spring, Inc., P. O. Box 177, New Philadelphia, **$55,522*****bit. 21.27 mi. Geauga and Lake Counties, to A. J. Ronyak, Burton, **$61,419****bit. on waterbound macad. and constructing continuous steel beam bridge with concrete deck and substructure 0.388 mi. U. S. R. 22, Harrison Co., to The Ross Co., 1120 S. Hamilton Rd., Columbus, **$160,909*****bit. 22.74 mi. S. R. 81, S. R. 81, S. R. 69, S. R. 69, S. R. 103, Allen, Hancock and Hardin Counties to C. E. Edgington & Sons, 1220 S. Main St., Findlay, **$52,616.** Part 1, waterbound macad., b. conc. 0.274 mi. County Road 36 in Pultney Twp., Part 2, waterbound macad.—b. conc. 0.204 mi. Imprvt. Co. Road 36, Pultney Twp., Belmont Co., to Sutton & Stewart Main St., Bridgeport, **$82,994** est. **$98,000*****bit. on stabil. base, b. conc., construct continuous concrete slab bridge with capped pile abutments and piers, 0.346 mi. S. R. 310, Licking Co., to The Red Eagle Corp., 154 Chihalis Rd., Columbus, **$60,907*****b. conc. resurf. 2.439 mi. S. R. 16, Lorain Co., to The Ohio Eng. Co., 105 Sixth St., Lorain, **$77,503*****b. conc. resurf., construct concrete parking lanes 0.662 mi. S. R. 5 and 13, Summit Co., to The Thew Constr. Co., 109 N. Union St., Akron, **$56,835*****b. conc. 0.83 mi. S. R. 2 and 191, Williams Co., to Northwest Materials, Inc., W. Edgerton, Box 332, Bryan, **$58,448****bit. & b. conc. resurf. 5.523 mi. U. S. 22, Fairfield and Perry Counties, to F. H. Brewer Co., P. O. Box 40, Lancaster, **$129,700*****b. conc. on waterbound macad. 0.691 mi. S. R. 257, Delaware Co., to James T. Shidecker, Sunbury, **$66,000** Intersection of Hardin and Wyandot Counties to U. S. Constr. Co., 115 E. Johnson St., Upper Sandusky, **$59,899.**

bit. 45.36 mi. Gallia and Meigs, to Fenton Constr. Co., P. O. Box 310, Ashland, **$75,488*****b. conc. construct steel beam bridge with concrete deck on one existing abutment capped and extended with concrete and one new concrete abutment, Br. No. MO-35-15R over Toms Run and road concrete deck over existing concrete arch bridge, Bridge No. MO-35-60 over Little Bear Creek, U. S. No. 35, Montgomery and Preble Counties, to Asphalt Products Co., Box 586, O. R. R. 11, Dayton, **$192,430*****b. conc. construct steel beam continuous slab Bridge AS 90-189 with concrete abutments over Branch of Griggs Creek; 30 ft. span concrete slab Bridge No. AS 90-209 with concrete substructure over Branch of Griggs creek; 21 ft. span concrete slab Bridge No. AS-90-231 with concrete abutments, over branch of Ashtabula River, S. R. 90, Ashtabula Co., to Claude Britton, 407 Atwood St., Galion, **$55,886*****bit. 56.4 mi. Muskingum, Perry and Preble Counties, to Walter L. Foltz, P. O. Box 172, Hamilton, **$62,083****bit. 33.26 mi. Monroe, Morgan, Noble and Washington Counties to The Shelby Co., Thornville, **$101,000*****bit. 15.53 mi. Licking Co., to Ralph H. Fulk, Box 301, Hebron, **$52,741.** Grand total $1,829,568. Bids 3/29. CD 3/16—ENR 3/24.

Ohio—State Hy. Dpt., Columbus, Zone 15, b. conc. on granulated slag insulation course, 0.676 mi. U. S. 42, Tuscarawas Co., to Wm. L. Schloss Asphalt Paving Co., 2494 Lee Rd., Cleveland, **$61,199.** Est. $79,500. Bids 3/29. CD 3/16—ENR 3/24.

●Oklahoma—State Hy. Dpt., Oklahoma City, N. W. E. Steelman, 2000 N. E. 4 St., Oklahoma City, Zone 4, stabil. base and single bit. surf. 7.568 mi. State Hy. 33 east of Strong City, Roger Mills Co., **$162,199** est. $172,147; stabil. base, single bit. surf. 5.721 mi. S. 60 east of Vici, Dewey Co., **$95,551** est. $96,119; stabil. base and single bit. surf. 4.52 mi. U. S. 281 north of Seiling, Dewey Co., **$152,302** est. $154,739***to Park Ward Co., Insurance Bldg., Oklahoma City, Zone 2, traffic bound surf. 3.224 mi. farm-to-market road, Caddo Co. **$69,666** est. $73,473; stabil. base, single bit. surf. 5.592 mi. U. S. 283 north of Shattuck, Ellis Co., **$120,932** est. $128,775; stabil. base, single bit. surf. 5 mi. U. S. 283 north of Shattuck, Ellis Co., **$113,434** est. $119,794 ***to Smith Bros., Noble, traffic bound surf. 7.846 mi. State Hy. 18 north of Cushing, Payne Co., **$197,010** est. $228,436***to Moran, Buckner & Lyles, Surety Bldg., Muskogee, c. conc. 0.46 mi. Gladstone Ave. in Frederick, Tillman Co. **$59,637** est. $63,359***to O. R. Gragg, Henryetta; traffic bound surf. course 6.551 mi. farm-to-market road, McCurtain Co. **$56,037** est. $61,164***to W. E. Logan & Sons, Barnes Bldg., Muskogee; traffic bound surf. course 2.367 mi. U. S. 75 south of Okmulgee, Okmulgee Co. **$155,412** est. $198,-607. Grand total $1,182,189. Bids 4/5. CD 3/30; 4/28.

Tenn., Somerville—Fayette Co., c/o County Engr., grading, surf. & roads, force account. Approx. **$50,000.**

Tex., Columbus—Colorado Co., Columbus, all weather road constr. Precinct 1, **$65,000;** Precinct 4, **$75,000,** own forces. CD 7/22/47—ENR 8/7.

Tex., Houston—James H. Edmonds, Oak St., street constr. and asph. paving, own forces **$55,000.**

Utah—State Road Comn., Salt Lake City, 9.932 mi. bit. roadway, incl. 20 ft. span reinf. con. bridge on State hy. between Milford and Frisco, Beaver Co., to Whiting & Hammond, Springville, **$119,055.** Est. $125,544. Bids 3/30. CD 3/23.

Va., Roanoke—City, 107 Municipal Bldg., paving sidewalks, to Philip L. Baird, 2420 Wycliffe Ave. S. W., **$82,658.** Bids 3/14. CD 3/8—ENR 3/10.

Washington—State Hy. Dpt., Olympia, grading, surfacing 0.7 mi. State Hy. 16, Larrabee Revision, E. R. P. No. ER-F-4 (1) Unit 2, Okanogan Co., to C. E. Oneal, Ellensburg, **$73,909*****bit. roadmix 7.478 mi. East Hoquiam Rd., F. A. S. No. S-0487 (1), and grading, surf., paving and construct rein. con. bridge 1,059 mi. Primary State Hy. 13 in Cosmopolis, E. A. P. No. F 006-1 (1), both Grays Harbor Co., to Pacific Sand & Gravel Co., Centralia, **$149,133** and **$111,538** respectively******respectively*******grading, surf., paving 0.45 mi. Primary State Hy. 1 in Everett, 41 St.-Rucker Ave. to Broadway, F. A. P. No. U-004-4 (3), Snohomish Co., to Northwest Constr. Co., 2950 6 Ave. W., **$80,135*****conc. pave. 1.126 mi. Primary State Hy. 2, Cle Clum Riber bridge approaches, E. R. P. No. ER-F-3 (1), Unit 2, Kittitas Co., to Harrison Bros. Co., 225 Wakefield Dr., Tacoma, **$98,571*****grading, surf. 4.7 mi. Secondary State Hy. 10-R, Leahy east, F. A. S. No. S-0449 (1), Douglas Co., to D. L. Saddler & Sons, Wenatchee, **$157,556.** Grand total $671,523. Bids 4/1. CD 3/17—ENR 3/24.

Wyoming—State Hy. Comn., J. R. Bromley, supt., Cheyenne, base course surf., etc. 5.727 mi. Orin Junction-Glendo Rd., FAP Nos. FI 57 (3) and FI 142 (5), Platte and Converse Counties to Knisley-Moore Co., Douglas **$146,-018*****base course surf., plant mix and surf. course, etc. 10.507 mi., Wheatland-Cheyenne Rd. and 1.782 mi. Wheatland-Bosler Rd., FAP Nos. FI 223 (5) and F 204 (4), Platte Co. and base course surf., plant mix surf. course, etc. 22.11 mi. Evanston-Granger Junction Rd., FAP No. FI219 (5), Sweetwater and Uinta Counties to Peter Kiewit Sons Co., 1024 Omaha Natl. Bank Bldg., Omaha, Neb., **$175,840** and **$364,-415** respectively. Grand total $756,393. Bids 3/29. CD 3/24.

●Alberta—Dominion Govt., Dpt. Mines & Resources, Ottawa, Ont., impr. Banff-Windermere Rd., Banff and Kootenay Parks, to Standard Gravel Surfacing Co., Inc., Calgary, **$950,000*****imprv. by south of Jasper toward Banff, imprv. Medicine Lake Hy., within Jasper Park, to Western Constr. & Lumber Co. Ltd., Edmonton, **$1,100,000*****imprv. Akamina Parkway entrance Rd., in Waterton Lakes National Park, to General Constr. Co. Ltd., Lethbridge, **$375,000.** Grand total $2,425,000. CD 12/3/46—ENR 12/9/46.

EARTHWORK, WATERWAYS

BIDS ASKED

April 27

†Arkansas—U. S. Engr., P. O. Box 97, Memphis, Tenn., placing approx. 95,600 cu. yd. earth, installing 2 corrugated metal pipe drainage structures with appurtenances, White River Levee Dist., Woodruff, Monroe and Prairie Counties, Inv. No. Eng-40-041-49-118. CD 12/24/48—ENR 1/13/44.

April 28

†South Dakota—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., Portland Cement for Angostura Dam, Angostura Unit, Spec. 2639.

April 29

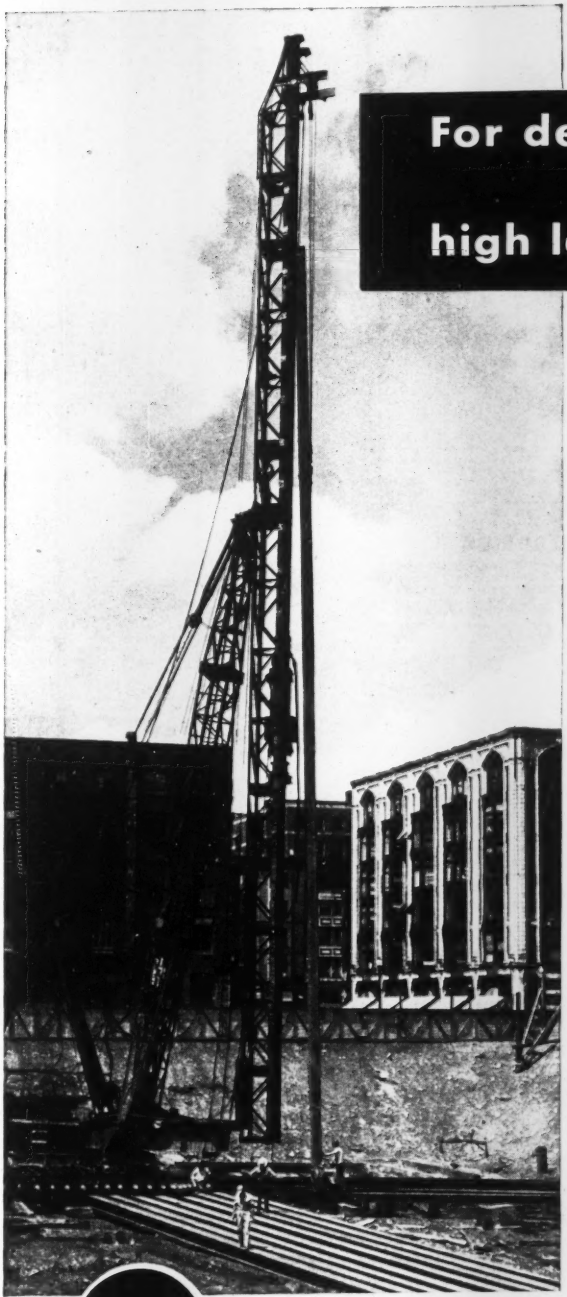
†Florida—U. S. Engr., P. O. Box 4970, Jacksonville, maintenance dredging (shoal removal) 245,400 cu. yd. Turning Basin and Channel from Turning Basin to mouth of Miami River, Miami Harbor, Inv. No. Eng-08-123-49-87.

†Illinois—U. S. Engr., Clock Tower Bldg., Rock Island, steel sheet piles anchored to row of piles embedded in an embankment of stone, approx. 152 ft. upstream from Station 1331.5A, at upper end of upper guide wall, upper approach, dike transition section, Lock and Dam 13, Mississippi River, 25 mi. upstream from Fulton, Serial C, Eng-11-117-49-60.

May 2

La., Oak Grove—Police Jury, West Carol Parish, Oak Grove, drainage proj. incl. 2,142,400 cu. yd. channel excav.

(Continued on page 62)



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STEEL H-BEAM BEARING PILES

9-530

UNITED STATES STEEL

(Continued from page 60)

May 5

†Montana—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point, or f.o.b. cars Coram, 12 lots bulkhead gate frames, guides, and latches for 12 gate openings, for turbine draft tubes, Hungry Horse Power Plant, Hungry Horse Proj., Spec. 2634, one 10.33 ft. by 10.33 ft. bulkhead gate for river outlets, at Hungry Horse Dam, Hungry Horse Proj., Spec. 2635, L. N. McClellan, ch. engr.

†Montana—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point, or f.o.b. cars Coram, one lot miscellaneous metalwork for pump chamber shaft and adit in block 17, Hungry Horse Dam, Hungry Horse Proj., Spec. 2631, L. N. McClellan, ch. engr.

Bids Asked

Conn., Stamford—A. D. Hallilwell, Rock Rimmon Rd., excavating approx. 30,000 cu. yd. humus from drained swamp, about 400 ft. wide.

LOW BIDDERS

†Arkansas—U. S. Eng., 300 W. Broadway, Little Rock, cancelled bids to have been opened April 8, clearing Bull Shoals Reservoir Proj., White River, Serial No. Eng-03-050-49-57. CD 3/23—ENR 3/31.

†Illinois—U. S. Eng., 826 U. S. Court House and Custom House, 1114 Market St., St. Louis, Zone 1, Mo., Mar. 31, levees in Prairie Du Rocher and vicinity, (Item V-B), (Edgar Lakes, Prairie Du Rocher and Modoc Drainage and Levee Dists.), Randall Co. involving 150,000 cu. yd. levee embankment, 10 acres seeding and mulching, 1,540 cu. yd. tamped backfill, two 66 in. sluice gates, etc., Serial No. Eng. 23-065-49-116, from S. W. Hardwick, Beardstown, **$98,315.** Est. **$90,080.** CD 3/22—ENR 3/24.

†Mississippi—U. S. Eng., P. O. Box 60, Vicksburg, bids cancelled to have been opened Apr. 14, clearing Narrows Reservoir, Serial No. Eng. 22-052-49-145. CD 3/21—ENR 3/24.

†Oregon—U. S. Eng., 19 E. Poplar St., Walla Walla, Wash., Mar. 31, design, fabrication and delivery equip. for navigation lock at McNary Dam, Serial No. Eng-45-164-49-2, Umatilla Co., from I.T.E. Circuit Breaker Co., 19 and Hamilton Sts., Phila., Pa., **$30,715.** CD 3/14—ENR 3/17.

†Oregon—U. S. Eng., 19 E. Poplar St., Walla Walla, Wash., Mar. 31, two turbines, appurtenances for powerhouse, from Pelton Water Wheel Co., 2929-19 St., San Francisco, Calif., **$203,775.** CD 3/18.

CONTRACTS AWARDED

Fla., Miami Beach—**Canoga, Inc.,** 987 S. W. 5 St., seawalls at south end of Biscayne Key. Owner bid was **$150,000.** M. B. Garris, 6.2 S. W. 27 Ave., Miami, engr.

†Louisiana—U. S. Eng., foot of Prytania St., New Orleans, 4,100,000 cu. yd. excav., Bayou Lafourche, Serial No. Eng. 16-047-49-236, to Atlas Constr. Co., Waxahachie, Tex., **$503,360.** Bids 2/25, awarded 4/6. CD 4/1—ENR 4/7, under LB.

La., Lake Charles—**Calcasieu Parish Police Jury,** Lake Charles, 1,613,500 cu. yd. dragline, Sam Jones to Griffen & Dickson, Houston, Tex., **$130,354.** Secy. 2, to Delta Drainage & Constr. Co., Greenville, Miss., **$104,700.** $235,054. Bids 4/5. CD 3/21—ENR 3/24.

●†North Dakota—U. S. Eng., Fort Lincoln, P. O. Box 200, Bismarck, furnishing del. concrete aggregates Garrison Dam and Reservoir, Riverdale, Eng-32-015-49-63, Schedule A, to R. H. Smith, 1241 Snelling Ave. N., St. Paul, Minn., **$1,241,925;** Schedule B, to Becker County Sand & Gravel Co., Crosby, Minn., **$310,500.** Bids 2/25. CD 3/31—ENR 4/7, under LB.

†Tex., Corpus Christi—Yards & Docks Annex, Navy Dpt., Arlington, Va., dredging Naval Creek channel between Intracoastal Canal to Padre Island, own forces. Approx. **$30,000.** CD 3/15—ENR 3/17, under LB.

AIRPORTS AND AIRBASES

BIDS ASKED

April 27

†Mass., Westfield — WAREHOUSE—U. S. Eng. Army Base, Boston, Zone 10, exten. warehouse, Barnes Airfield. Serial No. Eng. 19-026-49-80.

April 28

N. Y., Idlewild—AIRPORT—At office Chief Engineer, Port of New York Auth., 111 Eighth Ave., New York, Zone 11, switch house for Runaways A, B, C and V, Contr. NYA-40, New York International Airport. Plans deposit **$10.** CD 4/27/44—ENR 5/18/44.

May 2

†Ky., Glasgow—HANGAR—National Guard Bureau, Dpt. of Army, Bldg. T-29, Bowman Field, Louisville, T. type hangar, liaison type aircraft, Serial No. Eng. 15-058-NG-49-4.

N. Y., Idlewild—AIRPORT—At office Chief Engineer Port of New York Auth., 111 Eighth Ave., New York, Zone 11, furnishing, installing 31 lifty series for Hangars 3 and 4, Contr. NYA-20; access roads and parking and storage areas for Federal Bldg. Contr. NYA-34, New York International Airport. Plans deposit $25 each. CD 4/27/44—ENR 5/18/44.

May 3

†W. Va., Charleston—HANGAR—U. S. Eng., P. O. Box 59, Louisville 1, Ky., Air National Guard Facilities Hangar, boiler house, pump house and reservoir, Kanawha County Airport, Serial No. Eng-15-029-49-123. CD 4/4—ENR 4/7.

LOW BIDDERS

Ia., Fort Dodge—AIRPORT—City, City Hall, rejected bids municipal airport improvs., clearing, grading, marking, L. B. **$84,037,** storm drainage sys., L. B. **$53,121** and paving runway, L. B. **$209,184.** CD 4/6—ENR 4/14, under LB.

●†Alaska—CONCRETE, etc.—U. S. Eng., APO 942, c/o P.M., Seattle, Wash., furnishing, del. transit-mix dry batched concrete and aggregates to 10 of 12 construction contractors Eng-95-507-49-10, Schedule C, Fort Richardson, Ladd and Elelson Air Force Bases, from Morrison-Knudsen Co., Inc., Hoge Bldg., and Peter Kiewit Sons' Co., 1443 W. 45 St., Seattle, Wash., **$1,398,320.** Est. $744,862. Bids 2/4.

●†Alaska—AIRPORT IMPRVS.—U. S. Eng., Pier 51, Seattle, Wash., Apr. 6, outside utilities at Ladd Air Force Base, Fairbanks, from B. & M. Constr. Co., Fairbanks, **$1,718,500** est. $1,598,950***outside facilities at Fort Richardson, Anchorage, from Morrison-Knudsen Co., Inc., 319 Broadway, Boise, Idaho, **$1,588,581*****enlisted mens barracks and mess hall at Elelson Air Force Base, Fairbanks, from S. Birch & Sons Constr. Co., Ford Bldg., Great Falls, Mont., **$738,985** est. $916,853. CD 2/14—ENR 2/17.

CONTRACTS AWARDED

Ind., Evansville—AIRPORT—Bd. Aviation Comrs., City Hall, general contract terminal bldg. at airport, to Traylor Bros., Upper Mt. Vernon Rd., **$405,466.** CD 4/8—ENR 4/14, under LB.

●†Alaska—AIRPORT IMPRVS.—U. S. Eng., Pier 51, Seattle, Wash., power plant at Ladd Air Force Base, DEF 7, Fairbanks, to Morrison-Knudsen Co., Inc., and Peter Kiewit Sons Co., Hoge Bldg., Seattle 4, Wash. **$3,090,000;** airport lighting at Elelson Air Force Base, Fairbanks, to Reed & Martin, Fairbanks, **$703,000.** Bids 4/5. CD 4/11—ENR 4/14, under LB.

FOREIGN

India, Ballarpur — Government of India, Delhi, design and construction 25 ton daily capacity paper mill for production of fine paper from bamboo pulp, to John Inglis Co. Ltd., 14 Strachan St., Toronto, Ont. **$2,000,000.**

Pakistan, Karachi—Commercial Secy., Embassy of Pakistan, Shoreham, Hotel, Wash. D. C., receiving bids for glass mfg. plant for Govt. of Pakistan, Karachi. Dpt. Supply & Development, Karachi, engr.

LATIN AMERICA

Chile, Santiago—Chile Exploration Co., Santiago, development of sulfide ores, own forces. Approx **$500,000.** CD 1/4—ENR 1/20.

PUBLIC BUILDINGS

BIDS ASKED

April 26

†O., Mariemont—U. S. Eng., P. O. Box 2127, Huntington 19, W. Va., ceramic bldg., Ohio River Division Laboratories, 5851 Mariemont Ave., approx. 10 mi. northeast of downtown Cincinnati on U. S. Route 50, Serial No. Eng-46-022-49-128.

April 27

Ala., Tuscaloosa—University of Alabama, Tuscaloosa, physics bldg. Miller, Martin & Lewis, Title Guarantee Bldg., Birmingham, archts.

April 28

†Ill., Zion—U. S. Property & Disbursing Officer, National Guard Bur., Camp Ellis, 6 motor storage bldgs., Camp Logan, Serial No. NG 11-115-49-8. Plans deposit $5.

April 29

●Mass., Taunton—City Housing Auth., City Hall, one hundred two 2 story brick, concrete houses, Ingell and Main Sts., Proj. 200-1, $2,500,000. Plans deposit $5. August J. Schumacher, 162 Mt. Auburn St., Cambridge, archt. CD 7/30—ENR 8/19.

May 3

†Arizona-Nevada—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing del. f.o.b. cars shipping point or f.o.b. cars Kingman (Douglas) Ariz., one prefabricated bldg. for 230 kv switchyard service bldg., Davis Power Plant, Davis Dam Proj., Spec. 2641, L. N. McClellan, ch. engr.

Calif., Manhattan—Redondo Beach High School Dist., 315 N. El Redondo St., Redondo Beach, Mira Costa High School, incl. site development, 4 classroom wings, library bldg., 3 unit administration bldg. **$939,000.** Sam Lunden, 600 Rowan Bldg., Los Angeles, archt. CD 6/23/48—ENR 8/5/48.

S. D., Pierre—City, power plant addn., generating equip. $80,000. CD 6/17/43—ENR 6/24/43.

†Tenn., Oak Ridge—Roane Anderson Co., P. O. Box 456, Oak Ridge, Gamble Valley School Improvs., Inv. No. 49-16. Plans deposit $10.

May 4

†N. M., Los Alamos—U. S. Atomic Energy Comn., P. O. Box 1539, addnl. bldgs. at White Rock Construction Camp, Inv. No. 291-49-5. $500,000-$700,000.

N. Y., Brooklyn—Dpt. P. Wks., Municipal Bldg., New York, Zone 7, general contract, plumbing, heating and ventilating, and electrical and lighting fixtures for Gravesend Health Sub-station B, Avenue S and E. 16 St. Plans deposit $25. CD 11/16/44—ENR 11/30/44.

N. Y., New York—Supt. School Bldgs., Design & Constr., 49 Flatbush Ave. exten., Brooklyn, Zone 1, general contract, plumbing and drainage, heating and ventilating, electrical and lighting fixtures for P. S. 114 addn., Cromwell Ave. between McClelland and E. 167 Sts. CD 9/8/48—ENR 9/30/48.

Wash., Seattle—School Bd., 810 Dexter Ave., Fauntleroy School addns. mill constr. $350,000. Plans deposit $25. G. W. Stoddard & Assoc., 1213 Westlake Ave. N., archts. CD 4/12—ENR 4/14.

May 6

Tex., Houston—Houston Independent School Dist., 1600 Washington St., site imprvs., incl. grading, drainage, levelling, etc., at Pershing Junior High School, $75,000; at Luther Burbank Junior High School, $250,000. John G. Turney, 2405 San Jacinto St., engr. CD 2/8—ENR 2/17, under LB.

May 16

●†N. M., Los Alamos—U. S. Atomic Energy Comn., P. O. Box 1539, housing unit, Group 12, 438 frame duplex and 4-unit apartment bldgs., Inv. No. 291-49-134. $5,000,000-$7,000,000. CD CD 3/30.

May 17

N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, foundations, appurtenances for Marble Hill Houses, Proj. No. NYC-15 in area bounded by Broadway, Exterior St., W. 225 St., Broadway, W. 228 St., Marble Hill Ave., W. 230 St. Plans deposit $75. CD 12/30—ENR 1/20.

May 24

●Idaho, Moscow—University of Idaho, Moscow, agriculture science bldg. $1,000,000. V. N. Jones & Assoc., Idaho Bldg., Boise, archts. CD 4/18/47—ENR 5/15/47.

July or August

●Pa., Hollidaysburg—Blair Co. Comn., Hollidaysburg, buildings at county home, **$1,250,000.** Hunter, Caldwell & Campbell, 3601, 5 Ave., Altoona, archts. Lewis L. Gwin, R.E., 408 Mulberry St., co. engr. CD 11/1/45—ENR 12/13/45.

LOW BIDDERS

Ia., Ames—State Bd. Educ., Des Moines St., Des Moines, and Iowa State College, B. H. Platt, bus. mgr., Ames, received no bids about Apr. 1, brick, rein. conc. agronomy bldg., Iowa State College. **$1,500,000.** Proudfoot, Rich & Woodburn, 302 Garver Bldg., Des Moines, archt. CD 1/24—ENR 1/27.

●Mass., Brookline—Town of Brookline Housing Auth., Town Hall, Apr. 8, 114 housing units, Egmont, St. Paul, Dummer, and Pleasant Sts., Proj. 200-2, from M. Cohen & Sons Co. Inc., 79 Milk St., Boston, **$1,107,000.** CD 3/22—ENR 3/24.

Mass., Dedham—Town of Dedham Housing Auth., 381 Washington St., Apr. 6, housing, Oakland Rd., East Dedham, Proj. 200-1, from Volpe Constr. Co., 54 Eastern Ave., Malden, **$688,340.** CD 3/23—ENR 3/31.

●N. Y., Binghamton—Dpt. Mental Hygiene, Albany, April 13, general contract 780-bed medical-surgical bldg., at Binghamton State Hospital, from Mutual Constr. Corp., 7 E. 42 St., New York, **$5,263,470****heating work, from Josesh Davis, Inc., 1120 W. Delaware St., Buffalo, **$413,937*****sanitary work, from R. T. Frye Co., Inc., 137-28 Northern Blvd., Flushing, **$386,000*****electrical work, from Horack-Hayden Inc., 16 Howell St., Rochester, **$252,486.**

●N. Y., Rockaway—New York City Housing Auth., 63 Park Row, New York, Zone 7, general contract Arverne Houses, Proj. No. NYC-18 in area bounded by Rockaway Beach and Arverne Blvds., Beach 56 St., Beach Channel Dr., and Beach 54 St., Queens Proj., from P. J. Carlin & P. T. Cox Co., 101 Park Ave., New York, Zone 17, **$2,635,000*****plumbing, from Jarcho Brothers, 306 E. 45 St., New York, Zone 17, **$285,500*****heating and ventilating, from Kerby Saunders Co., 630 W. 52 St., New York, **$360,274.** CD 3/23—ENR 3/31.

Tenn., Murfreesboro—Rutherford Co., Bd. Educ., Murfreesboro, Apr. 8, high school, from Gardner Constr Co., 714 Allison St., Nashville, **$671,657.** CD 3/21—ENR 3/24.

Tenn., Pulaski—Giles Co., Pulaski, Apr. 7, hospital, from Daniel Constr. Co., 822 7 Ave. S., Birmingham, Ala., **$291,660.** CD 4/1.

Wis., Sparta—Monroe Co., Sparta, Apr. 6, general contract county infirmary addn. from I. F. Finger, Mauston, **$298,500.** CD 3/2—ENR 3/10.

†Alaska, Palmer—U. S. Dpt. Agriculture, 14 St. and Independence Ave. S. W., Wash., 25, D. C., Apr. 5, research laboratory at agriculture Experiment Station, U. S. D. A. No. 1944-49, from Wm. Hufeisen, Anchorage, **$259,444.** CD 3/14—ENR 3/17.

CONTRACTS AWARDED

Ala., Mobile—Mobile Co., Mobile Vigor High School addns., alterations, to Foster Creighton Co., American Natl. Life Bldg., Nashville, Tenn., **$297,700.** Bids 3/11. CD 2/24—ENR 3/3.

Fla., Ft. Myers—Lee Co. Bd. P. Instruction, Ft. Myers, high school, to Henry A. Ivey, Inc., 569 Plum St. N. W., Atlanta, Ga., **$469,000.** Bids 4/9. CD 3/15—ENR 3/17.

Ga., Gainesville—Hall Co., Gainesville, hospital, to Ray M. Lee Co., 1004 Edgewood Ave. N. E., Atlanta, **$879,550.** Bids 4/5. CD 4/8—ENR 4/14.

Ind., Muncie—Muncie Post of Amvets, Muncie, 76 houses, to C. L. Bartel, Western Reserve Bldg., **$440,000.**

●Ia., Ames—U. S. Atomic Energy Comn., P. O. Box 16 A, Station A, research laboratory, Iowa State College, to James Thompson & Sons, 222 E. Third St., **$1,749,000.** Bids 2/16. CD 3-1—ENR 3/3, under LB.

La., Lake Charles—Calcasieu Parish School Bd., Lake Charles, high school addns., Vinton, to T. Miller & Sons, Lake Charles, **$266,374.** Bids 4/5. CD 11/2—ENR 12/9.

Neb., Omaha—Omaha Public Power Dist., 17 and Harney Sts., warehouse storage addn. to power plant, day labor. Approx. **$70,000.** C. W. Minard, c/o owner, ch. engr.

N. J., Jersey City—Housing Auth., City Hall, Newark, Mar. 15, general contract temporary housing facilities, to Terminal Constr. Corp., 194 Hackensack St., Wood-Ridge, **$755,193.** Bids 3/15. CD 3/9—ENR 3/17.

N. Y., Wantagh—Bd. Educ., Union Free School Dist. 23, Town of Hempstead, school Seymour Ave. between Bunker Pl. and De-Mott Ave., to John V. Schaefer Constr. Corp., 381 Sunrise Hy., Lynbrook, **$574,000.** Bids 3/16. CD 3/21—ENR 3/24, under LB.

●N. Y., White Plains—Housing Authority, 11 William St., 450 unit housing, Brookfield St. and Fisher Ave., to Lasker Goldman Corp., 161 Remsen St., Brooklyn, **$1,843,200.** Bids 2/16. CD 2/23—ENR 3/3, under LB.

Tenn., Murfreesboro—Rutherford Bd. Educ., Murfreesboro, brick veneer, concrete block central high school, to Gardner Constr. Co., 714 Allison St., Nashville, **$671,850.** Bids 4/5. CD 4/14—ENR 4/21, under LB.

Tex., Austin — Austin Independent School Dist., Austin, Blue Bonnet School, to J. M. Odom, P. O. Box 774, **$254,920.** Bids 2/18. C. H. Page & Son, 305 W. 11 St., engrs.

●Tex., Galveston—John Sealy Hospital Foundation, 2325 Strand St., one 6 story and three 3 story masonry, concrete, steel hospital bldgs., to J. W. Bateson Constr. Co., c/o Moore Bldg., San Antonio, **$4,567,770.** Bids 4/5, awarded 4/11. CD 4/11—ENR 4/14, under LB.

Tex., Houston—University of Houston, 701 Fannin St., boiler plant, to W. S. Bellows Constr. Co., 716 N. Everton St., **$136,658,** mechanical work, to Wallace Plumbing Co., 4211 N. Main St., **$103,611.** Bids 4/8. CD 3-31.

COMMERCIAL BUILDINGS

BIDS ASKED

April 27

Que., Montreal — Mayerovitch & Bernstein, archts., 1502 W. Ste. Catherine St., 2 story, basmnt., 160x180 ft., rein. con. steel, brick department store, Queen Mary Rd., for Steinberg Wholesale Groceries Ltd., 5400 Hochelaga St., $500,000. CD 11-13-47—ENR 12/4/47.

April 28

S. D., Sioux Falls—Augustana College, Sioux Falls, 3 story women's dormitory, $250,000. Harold Spitznagel, Natl. Bank Bldg., archt. CD 3-22-45—ENR 4-5-45.

About May 15

●Ia., Des Moines—Iowa Methodist Hospital, 1200 Pleasant St., hospital addn., $1,500,000. Brooks-Borg Architects & Engineers, Hubbell Bldg., archts. and engrs. CD 8-30-44—ENR 9/21/44.

About June 1

●Ala., Birmingham—"365" Crippled Children's Clinic, c/o Warren, Knight & Davis, archts., Protective Life Bldg., opthopedic clinic for crippled children, $1,100,000. CD 12-8-44—ENR 12-28-44.

SOON LETS CONTRACT

Fla., Surfside—Jona, Inc., c/o Joseph J. De Brita, archt., 7625 Biscayne Blvd., Miami, soon lets contract 85 room hotel., CD 2-15—ENR 2-17.

Ga., Atlanta—Ernest St. John Mann, c/o John W. Cherry, archt., Candler Bldg., soon lets contract, department store. CD 4-4—ENR 4/7.

O., South Euclid—St. Margaret Mary Parish, 3991 Belmore St., soon lets contract 1 story, brick, steel parish and school, Mayfield Blvd. and Bluestone Rd. $260,000. Stickle, Kelly & Stickle, 2422 Prospect Ave., Cleveland, archts. CD 4-22—ENR 5-13.

LOW BIDDERS

Ga., Griffin—Griffin-Spaulding County Hospital Auth., Griffin, Apr. 7, hospital, from Batson-Cook Co., West Point, **$899,949.** CD 2/25—ENR 3-3.

●N. Y., New York—Prudential Insurance Co., 763 Broad St., Newark, N. J., will not construct apartment, Riverside Dr., 73 to 74 Sts. **$5,000,000.** Project abandoned. CD 5-14/47—ENR 5-29-47.

O., Columbus—Corpus Christi Church, Linwood and Stewart Sts., rejected bids Apr. 6, church. Approx. **$300,000.** CD 3-18—ENR 3-24.

Pa., Sewickley — St. James R.C. Congregation, Sewickley, Feb. 3, parochial school, auditorium and gymnasium, Bank, Broad and Walnut Sts., from Henry Busse, 112 Wabash

(Continued on page 65)

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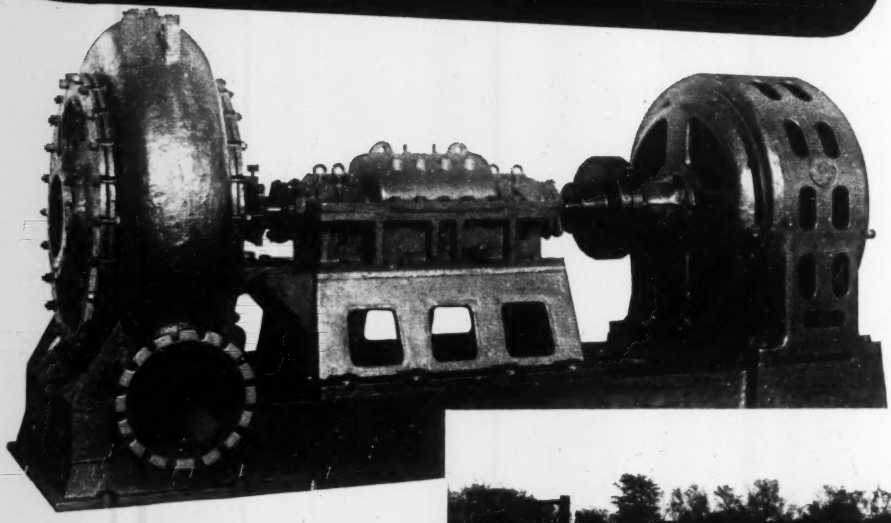

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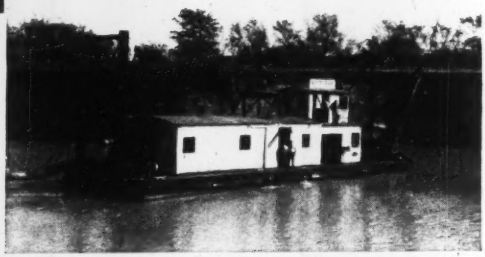

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(Continued from page 63)

Ave., Pittsburgh, **$430,000.** Est. $325,000. CD 2/2—ENR 2/5.

Man., Winnipeg—Bank of Toronto, 456 Main St., rejected bids Sept. 17, 6 story, 80x95x95 ft. rein.-con., limestone, granite office, approx. **$500,000.** CD 9/7—ENR 9/9.

CONTRACTS AWARDED

●**Fla., Miami**—Florida Sun Deck Home Co., c/o Frank A. Vellanti, 2019 E. 4 Ave., Hialeah, 700 homes in Sun Tan Village Sect., Owner builds. Over **$1,000,000.**

Fla., Miami—J. H. McGeary, Sr., 8835 E. Dixie Hy., 45 homes. Owner builds. **$365,000.**

Fla., Miami—Dr. W. F. Ganyard, c/o contractor, hotel, to Maurer Constr. Co., 2509 N. W. 2 Ave. Approx. **$250,000.**

Fla., Miami—Owner, c/o contractor, 56 apartment units, Red Rd. and Adams St., to Interstate Constr. Co., 1337 N. Bayshore Dr. Approx. **$250,000.**

Ga., Valdosta—Prince Jenright, Thomasville, apartment development, N. Ashley St., Owner builds. **$300,000.**

La., New Orleans—Lauricella & Sizeler, Jefferson Hy., 100 houses. Owner builds. Aprox. **$300,000.** P. M. Allison & Assoc. and C. E. Orr, 315 St. Charles St., archts.

Md., Baltimore—Guild Homes, Inc., 3231 Montebello Terrace, thirty-five 2 story, 16x28x32 ft. brick houses, 4424-84 to 4427-49 La Plata Ave., separate contracts. **$250,000.** Lawrence A. Menefee, 547 N. Charles St., archt.

Md., Baltimore—National Realty Corp., 22 E. 21 St., eight 16x28x32 ft. and forty-four 14x26x30 ft. 2 story, masonry houses, 2900 Strickland St., 501-41 323-36 Parsley St., separate contracts. Approx. **$353,600.** Wm. E. Gray, 12 E. Pleasant St., archt.

O., Columbus—St. Catherine's School & Parish Hall, S. Gould Rd. at Fair Ave., school, to Altman-Cundy Co., 1251 Fairwood Ave. **$417,650.** Bids 3/22, awarded 4/8. CD 3/18—ENR 3/24.

Va., Roanoke—Green Memorial Methodist Church, c/o contractor, church addn. and remodeling, to Martin Bros. Constr. Co., 29 Kirk Ave. S. W. Approx. **$250,000.**

●**Va., Virginia Beach**—Mayflower Corp., c/o W. Taylor Johnson, Dean Bldg., Plume St., Norfolk, 16 story 272 unit apartment, incl. stores and parking facilities, to Byrne Organization, 2607 Connecticut Ave. N. W., Wash., D. C. Approx. **$5,000,000.** T. David FitzGibbon, Royster Bldg., Norfolk, archt.

Va., Virginia Beach—Ocean Lake Apartment Corp., c/o George N. Badran, Selden Arcade, Norfolk, 80 unit garden type apartment development, to Conrad Bros., Citizens Bank Bldg., Norfolk. Approx. **$500,000.** A. Ray Pentecost, Jr., Colonial and 21 St., Norfolk, archt.

Alta., Edmonton—E. E. Wagner, Edmonton, 6 story, 50x100 ft. rein.-con. steel, brick office, to N. G. Brettelle Constr. Co. Ltd., Edmonton. Approx. **$500,000.**

●**Ont., Kitchener**—Biltmore Theatres Ltd., 54 Wellington St., Toronto, office, theatre and retail store, King and Walter Sts., to Hughes-Richards Ltd., 221 Victoria St., Toronto, Approx. **$1,000,000.** S. Devore, 463 Spadina Ave., Toronto, archt.

INDUSTRIAL BUILDINGS

BIDS ASKED

April 27

Tenn., Carthage—WAREHOUSE, etc.—Upper Cumberland Membership Corp., Carthage, warehouse and office, **$100,000.** Plans deposit $50. Walk C. Jones-Walk C. Jones, Jr., 1215 Poplar St., Memphis, archts.

Bids Asked

Ill., Chicago—ENGINE HOUSE—Chicago, Milwaukee, St. Paul & Pacific R. R. Co., R. J. Middleton, ch. engr., Union Station, Zone 6. 1 story, 40x270 ft. concrete, steel engine house.

R. I., Providence—SHOP—Meldon Store Fixtures Co., Inc., 314 Blackstone St., 2 story, 15,500 ft. cinderblock shop, showroom and 2o stores, Washington, Westminister and Lafayette Sts. **$100,000.** CD 2/15—ENR 3/17.

Ont., Toronto—PLANT, etc.—A. G. Facey, archt., 991 Bay St., 1 story, 30x30x45 ft. rein.-con. steel, brick boiler house for Colgate Palmolive Peet Co. Ltd., 64 Nattalie St., $75,000.

SOON LETS CONTRACT

Fla., Miami—WAREHOUSE—P. H. Alford, c/o Jorgensen & Schreffler, engrs., 713 Biscayne Blvd., soon lets contract warehouse.

Ill., Chicago—WAREHOUSES—Chicago, Burlington & Quincy R. R. Co., H. R. Clark, ch. engr., 547 W. Jackson St., soon lets contract substructures, 2 rein.-con. steel freight warehouses, R. A. Simon, 547 W. Jackson St., engr. CD 3/14—ENR 3/13.

Ill., Chicago—FACTORY, etc.—E. H. Sargent & Co., 155 E. Superior St., soon lets contract 1 story, brick, steel factory and office, Olsen & Urban, 5 S. Wabash St., archts. CD 2/17—ENR 3/31.

Que., Montreal—PLANT—Canadian Tube & Steel Products, Ltd., 5575 Hamilton St., soon lets contract superstructure for plant addn., $150,000. E. C. Miller, 485 McGill St., archt. T. Pringle & Son Ltd., 485 McGill St., engr.

LOW BIDDERS

Ala., Cullman—WAREHOUSE, etc.—Cullman Electric Co-operative, Cullman, Apr. 7, warehouse and office, from C. G. Thompson, Guin, **$77,209.** CD 3/25—ENR 3/31.

CONTRACTS AWARDED

Ala., Birmingham — PLANT — Standard Casket Mfg. Co., c/o Miller, Martin & Lewis, archts., Tile Guarantee Bldg., casket mfg. plant, to Bruce Building Co., 1021 2 Ave. N., **$439,000.** CD 3/3—ENR 3/31.

Ga., Sylvester — WAREHOUSE — Worth Tobacco Co., Inc., c/o contractor, tobacco warehouse, to W. J. Pippin Constr. Co., Multrie. Approx. **$85,000.**

Ia., Des Moines—PLANT—Iowa Farm Bureau Federation, Farm Bureau Bldg., design and construction plans to John J. Harte Co., Forsythe Bldg., Atlanta, Ga., **$800,000.** CD 3/17—ENR 3/31.

Kan., Mingo—GRAIN ELEVATOR—Mingo Co-operative Assn., Mingo, grain elevator, to Thompson-Vickory Constr. Co., Salinas, **$150,000.**

Kan., Sabetha—GRAIN ELEVATOR—Farmers Co-operative Assn., Sabetha, grain elevator, to Roberts Constr. Co., Sabetha, **$75,000.**

Ky., Springfield—PLANT—Cowden Mfg. Co., c/o contractor, plant, to J. F. Pettys Co., Springfield, Approx **$75,000.**

Mo., St. Louis—SHOP—Klein Mfg. Co., c/o H. W. Klein, 6239 Delor St., Zone 9, rebuilding 1 and 2 story bldg., and constructing 1 story, 35x37 ft. shop addn., 4375 Duncan Ave., to E. & E. Eng. Co., 5530 Hancock Ave., Zone 9. Julius Tarling, 2807 N. Grand Blvd., Zone 7, archt. Metz & Ekson, 3800 W. Pine Blvd., Zone 8, engrs.

●**N. J., Bound Brook** — PLANT — Research Corp., 405 Lexington Ave., New York 17, N. Y., general contract 1 story, steel, brick plant, 110,000 sq. ft. floor space, to Michael Rosa & Co., Inc., 871 King Georges Rd. Fords*** plumbing and heating, to Richardson Eng. Co., 301 Barnet St., New Brunswick***electrical work, to James H. De Lacluise, 125 Raritan Ave., Highland Park. Approx. **$1,000,000.** Bids 3/22. CD 3/25—ENR 3/31.

N. Y., Brewster—SHOWROOM and GARAGE—Southeast Motors, Routes 6 and 22, 1 story, 85x150 ft., brick, concrete block auto showroom and repair garage, U. S. Route 6, to Lake Sweeney, Inc., 15 Bates Pl., Danbury Conn. Approx. **$70,000.** Frank LaCava, 248 Main St., Danbury, Conn., archt. Walter J. Campbell, 237 Main St., Danbury, Conn., engr.

O., Cleveland—FACTORY—Bryant Heater Co., 17825 St. Clair Ave., 2 story, basmt., 34x80 ft. brick, steel factory addn., to A. M. Higley Co., 2036 E. 22 St. Approx. **$90,000.**

Tex., Dallas—PLANT—Dallas City Packing Co., E. Morrell St., fresh meat packing plant extens., incl. cooler and chill rooms, provision coolers, boning dpt., etc., own forces. Approx. **$75,000.**

Tex., Dallas—AUTO—Grand Buick Co., 2108 Cedar Springs Rd., steel frame auto bldg. services, display concrete slab fdn., to Cowdin Bros., 1801 W. Davis St., **$265,000.** Bids 3/14. CD 3/2—ENR 3/10.

R. I., Pawtucket—WEAVE PLANT—Moore Fabric Co., 45 Washington St., 1 story, brick weave plant addn., Washington St., to Henry M. Soule Co., 110 Armistice Blvd. Approx. **$68,000.** CD 2/22—ENR 3/31.

●**Tex., Agua Dulce**—PLANT—Panhandle Producing & Refining Co., City Natl. Bank Bldg., Houston, gas compressor plant, to Jones & Laughlin Supply Co., 108 N. Trenton St., Tulsa, Okla., **$1,000,000.** Est. $750,000. CD 10/1—ENR 10/28.

Tex., Karnes City—PLANT, etc.—United Gas Pipe Line Co., Alamo Natl. Bldg., San Antonio, 10,000,000 cu. ft. natural gas processing plant, near here, to Del Zan, 616 Rusk St., Houston. Approx. **$475,000***3 mi. 4 in. c.l. waterlines, 8 mi. gas gathering lines, to Massey Pipe Line Constr. Co., Hy. 9, Corpus Christi, **$55,000***drilling, casing, developing 2 water supply wells, to The Layne-Texas Co. Ltd., 5402 Lawndale St., Houston, **$38,000***plant site and grading area, road constr., own forces. Approx. **$50,000.** Grand total Approx. $618,000. CD 2/9—ENR 2/24.

Tex., Wichita Falls—WAREHOUSE, etc.—Panhandle Refining Co., P. O. Box 1191, warehouse, welding and machine shops at refinery, to Jones & Laughlin Supply Co., 108 N. Trenton St., Tulsa, Okla., **$125,000.** CD 8/21/47—ENR 9/11/47.

Va., Danville—PRINTING PLANT—John R. McDaniel, Patton St., printing plant, to John W. Daniel, Danville. Approx. **$75,000.**

Va., Danville—WAREHOUSE—Producers Tobacco Co., Inc., c/o contractor, tobacco warehouse, to P. L. Anderson & Sons, Danville. Approx. **$75,000.**

Wash., Spokane — STORAGE ELEVATORS — Centennial Mills, Central Bldg., Seattle, Zone 4, forty 120 ft. concrete storage elevators, to Hegge George & Sons, Hutton Bldg. Approx. **$204,000.**

Wis., Milwaukee—BOILER HOUSE—Greenebaum Tanning Co., 4763 N. 33 St., Zone 9, 1 story, 95x115 ft. steel, concrete block boiler house, concrete fdn., to Siesel Constr. Co., 514 E. Ogden Ave., Zone 2. Approx **$175,000.** Grassold & Johnson, archts., and Moe, Gates, Weiss & Fuenthien, engrs., both 734 N. Jefferson St., Zone 2.

Wis., Milwaukee—STORAGE—A. O. Smith Corp., 3533 N. 27 St., Zone 10, 1 story, 64x443 ft., concrete, steel storage bldg., to Wisconsin

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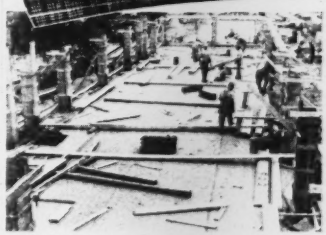

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Bridge & Iron Co., 5023 N. 35 St., Zone 9. Approx **$90,000.** H. A. Kiesow, c/o owner, archt.

Alta., Edmonton — WAREHOUSE — Park & Miller, 7 104 St., 3 story, 113x133 ft. concrete, brick warehouse, to Western Constr. Co., 7 Imperial Bank Bldg., Edmonton. Approx. **$200,000.** Neil McKernon, Credit Foncier Bldg., archt.

Ont., Toronto—FACTORY—Killan Mfg. Corp. Ltd., 380 Fleet St., concrete, steel, brick factory, to Finlay W. McLachlan Ltd., 195 Fairbank Ave. Approx. **$80,000.** C. G. McLean, 2700 Dufferin St., archt.

Que., Allard Lake—MINE DEVELOPMENT —Great Mountain Iron Corp., c/o S. R. Douglas, 218 Wanless St., Toronto, Ont., mine development (owner builds). Approx. **$200,000.** J. M. Forbes, c/o owner, engr.

Que., Montreal—FACTORY—Turner & Newall Ltd., Rochdale, England, factory, to Anglin Norcross Quebec Ltd., 892 Sherbrooke St. W. Approx. **$250,000.** E. C. Miller, 485 McGill St., archt. T. Pringle & Son, Ltd., 485 McGill St., engr. CD 9/4/46—ENR 9/19/46.

UNCLASSIFIED

BIDS ASKED

April 22

†Washington—SERVICE LINES, etc.—Pub. Wks. Office, Puget Sound Naval Shipyard, Bremerton, 115-kv pole line and change in primary service for Substation G, U. S. Naval Base; steel sheet piling wall 210 ft. long, with dredging, gravel backfill and concrete work for caisson seat, Drydock 3, Puget Sound Naval Shipyard, for Yards and Docks Annex, Navy Dept., Arlington, Va.

April 26

Mass., Hingham—TRAFFIC SIGNALS — Commonwealth of Mass., Dpt. P. Wks., 100 Nashua St., Boston, traffic signal installation. Plans deposit $5. P. H. Kitfield, ch. engr.

Missouri—RURAL DISTRIBUTION LINES—Laclede Electric Co-operative, Lebanon, 17.5 mi. rural distr. lines, Camden, Pulaski, Dallas, Laclede and Miriam Township, Conversion of 3.5 mi. of lines. $225,000. Frank Horton & Co., Lamar, engrs. CD 10/22—ENR 10/4.

Georgia—RURAL DISTRIBUTION LINES—Snapping Shoals Electric Membership Corp., Covington, 74.02 mi. rural distr. lines, Dekalb, Rockdale, Newton, Henry and Butts Counties. Plans deposit $25. J. R. McCrary Eng. Co., 22 Marietta St. Bldg., Atlanta, engr. CD 10/14—ENR 10/28.

South Dakota—RURAL DISTRIBUTION LINES—Wheatstone Valley Electric Assn., Milbank, 122 mi. rural distr. lines, Grant Co. $125,000. Banister Eng. Co., 1547 University Ave., St. Paul, Minn., engr.

April 28

†Conn., Weatogue—RIFLE RANGE—U. S. Eng., Bldg. 21, Naval Drydocks, South Boston, Mass., reconstructing rifle range.

Missouri—RURAL DISTRIBUTION LINES—North Central Missouri Electric Co-operative, Milan, 166.1 mi. rural distr. lines, Sullivan and Putnam Counties. $175,000. Frank Horton & Co., Lamar, engrs. CD 3/18/48—ENR 4/15/48.

April 29

N. Y., New York—SUBWAY STRUCTURE ALTERATIONS—Bd. Transportation, 250 Hudson St., Zone 13, altering subway structure to permit widening roadways along Delancey St. (Schiff Parkway) between the Bowery and Suffolk St., BMT Div.

About May 3

†N. M., Albuquerque—SWIMMING POOL—U. S. Eng., c/o Gen. Delivery, 1538, concrete swimming pool (Kirtland AFB CWE-914, Kirtland AFB, Serial No. Eng-29-005 (ACWE)-49-6.

May 3

†Colo., Camp Carson (br. Colorado Springs)—SWIMMING POOL—U. S. Eng., 260 Railway Exchange Bldg., Denver, 1 story, 64x120 ft. brick, concrete, cinder block indoor swimming pool, approx. 7 mi. for Colorado Springs. Approx. $50,000. CD 12, 7—ENR 1/2/16, under L.B.

May 11

Calif., San Diego—PIER, etc.—City Harbor Comm., City Center, harbor improv., incl. 28 ft. Pier extens., dredging channel and approaches to 10 ft., reclaiming tidelands. $600,000. J. E. Liebmann, 1040 W. Broadway, harbor engr. CD 12/6/44—ENR 12/21/44.

†Alaska, Anchorage—RAILROAD — The Alaska Railroad, Dpt. Interior, Anchorage, widening right-of-way along 12 mi. Turnagain Arm south of Anchorage topermit installation tracks and building highway in place of trestle tracks, Indian to Potters. CD 1/6—ENR 1/7.

June 15

●Ont., Toronto—SUBWAY—Toronto Transportation Comm., 35 Yonge St., first 7,000 lin. ft. Yonge St. Rapid Transit Route, Contr. S-1, approx. 3,400 lin. ft. subway, Front St. between York and Yonge Sts. and in Yonge St. between Front and Queen Sts., etc., Contr. S-2, approx. 3,600 lin. ft. subway, Yonge St. between Queen and College Sts. Total cost $30,000,000. Plans deposit $100 each, J. B. Parkin & Assoc., 648 Church St., archts. CD 1/22—ENR 2/5.

Bids Asked

O., Dayton—FIELDHOUSE—University of Dayton, (Society of Mary), Rev. George J. Renneker, pres., 300 College Park Ave., fieldhouse. $600,000. CD 3/7/46—ENR 3/21/46.

SOON LETS CONTRACT

Georgia—RURAL DISTRIBUTION LINES—North Georgia Electric Membership Co-operative, Dalton, soon lets contract 175 mi. rural dist. lines, Whitfield Co., etc. Plans deposit $25. Lanier Eng. Co., P. O. Box 453, Troy, Ala., engr.

LOW BIDDERS

Ala., Sheffield—SWIMMING POOL, etc.—City, City Hall, Apr. 8, swimming pool with filtering sys., and bath house complete, from Tri-City Constr. Co., Florence. **$66,140.** CD 3/21—ENR 3/24.

†California—TRANSMISSION LINES—Bureau Reclamation, Dpt. Interior, Elverta, Apr. 1, 230 kilovolt transmission lines tap line, from Shasta-Tracy line 1 to P. G. & E. Company Shasta substation and wood-pole section of Shasta-Tracy line 1, near Redding, Central Valley Proj., Spec. 2587, from Petersen Engineering Co., 4128 26 St., San Francisco, **$63,-862.** CD 3/8—ENR 3/17.

Calif., Los Angeles—SWIMMING POOL, etc.—City Dpt. Parks & Recreation, City Hall, Mar. 31, swimming pool, bath house, clubhouse at Cheviot Hill Playground, from Herco Constr. Co., 1200 N. Vine St. **$206,681.** Est. $210,000. CD 3/10—ENR 3/17.

Calif., Petaluma—LIVESTOCK BLDGS.—State Div. Architecture, P. Wks. Bldg., Sacramento, Apr. 5, 2 sheep and swine bldgs., cattle barns, poultry bldg. for 34th District Agricultural Assn., from Midstate Constr. Co., 427 Bryant St., San Francisco. **$111,333.** CD 3/15—ENR 3/25.

†Colorado—TRANSMISSION LINES — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., cancelled bids to have been opened Apr. 13, Bush Yuma 69-kv Transmission Line, Colorado-Big Thompson Proj., between Bush and Yuma, Spec. 2555. L. N. McClellan, ch. engr. CD 3/18—ENR 3/24.

Georgia—RURAL DISTRIBUTION LINES—Altamaha Electric Membership Corp., Lyons, Apr. 8, rural distr. lines, Emanuel, Tattnall, Montgomery, Trautlen and Toombs Counties, from W. L. Coston & Sons, First Natl. Bank Bldg., Birmingham, Ala., **$539,284.** CD 3/17—ENR 3/24.

Ga., Tallapoosa—NATURAL GAS SYSTEM—City, City Hall, Mar. 31, natural gas sys., from W. D. Owens Constr. Co., First National Bank, Montgomery, Ala., $173,729. CD 3/25.

Kan., Medicine Lodge—SWIMMING POOL, etc.—City, City Hall, Apr. 22, swimming pool, pump house, water conditioning, from Utilities Constr. Co., First National Bank Bldg., Lincoln, Neb., **$57,310.** CD 3/8—ENR 3/10.

Louisiana—RURAL DISTRIBUTION LINES — Louisiana Electric Co-operative, Inc., c/o P. E. Randal, mgr., Alexandria, 247 mi. rural distr. lines, Natchitoches, Grant, Rapides, Evangeline, Avoyelles and St. Landry Parishes, from Brandt-Jones Constr. Co., Brookhaven, Miss., **$328,860.** Est. $300,000. Freese & Nichols, 407 Daneiger Bldg., Ft. Worth, Tex., engrs. CD 3/26—ENR 4/7, under LB.

Minnesota—RURAL DISTRIBUTION LINE—P.K.M. Electric Co-operative, Warren, Mar. 29, 748 mi. rural distr. lines, Polk, Kittson and Marshall Counties, from Delta Constr. Co., Clarksdale, Miss., **$873,229.** CD 3/22.

Missouri—RURAL DISTRIBUTION LINES—Nodaway-Worth Electric Co-operative, c/o G. R. McGuire, Maryville, Mar. 30, labor only, 161.51 mi. rural distr. lines, Nodaway, Worth, Gentry, Holt and Harrison Counties, Mo., and Taylor, Ringgold and Decatur Counties, Ia., from A. A. Electric Co., Cicero, Ill. **$674,347.** Est. $850,000. CD 3/22.

†North Dakota—RAILROAD—U. S. Eng., Fort Lincoln, Box 3087, Bismarck, Apr. 15, access railroad and addnl. trackage for Garrison Dam and Reservoir, Eng-32-015-49-77, from Wm. A. Smith Contg. Co., 1401 Fairfax Trafficway, Kansas City, Kan., **$77,169.** CD 3/8—ENR 3/24.

Oregon—RURAL DISTRIBUTION LINES—Waco Electric Co-operative, 316 E. 3 St., The Dalles, Mar. 28, 497.5 mi. rural distr. lines, Wasco, Jefferson and Wheeler Counties from Washington Electric Co., 5245 S. Tacoma Way, Tacoma, Wash. **$82,277.** CD 3/17.

South Carolina—RURAL DISTRIBUTION LINES—Bee Dee Electric Co-operative, Inc., T. E. Wilkes, pres., Darlington, Mar. 29, 17.45 mi. rural distr. lines, Chesterfield, Lee, Darlington and Florence Counties, from Mechanical Contr. & Engrs. Inc., 145 Bishop St. N. W., Atlanta, Ga., **$195,305.** CD 3/17—ENR 3/24.

Tenn., Murfreesboro—STADIUM — Middle Tennessee State College, Murfreesboro, athletic stadium addn., from Martindale Bros., Murfreesboro, **$72,981.**

†Washington—CONTROL BOARDS, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., Mar. 31, 3 generator unit control boards, one extn. to main control board, and unmounted load and frequency control and recording equip. for Units R7, R8 and R9, 230 kv Spokane line 5 and Midway line 3, Grand Coulee right power plant, Columbia Basin Proj., Spec. 2575, from Wolfe & Mann, 28 and Sisson Sts., Baltimore, Md., **$63,699.** CD 2/14—ENR 3/10.

†Washington — TRANSMISSION LINE — Bonneville Power Admin., 729 N. E. Oregon St., Portland, 8 Ore., 34 mi. Foster Creek-Columbia River sect. & Foster Creek-Snohomish 230 kv transmission line, Inv. 4503, Douglas Co., from Smith & White, Vancouver. **$374,450.** CD 2/17.

●†Alaska—RAILROAD IMPRVS. — The Alaska Railroad, Dpt. Interior, Anchorage, Apr. 11, widening embankments and few cuts, raising tracks, elimination sags, replacing ties, construct several line changes, raising bridge bents, installing new bulkheads, extending siding, raising bridge, etc., 144 mi. Alaska Railroad. Potter to Clear, from William A. Smith & Co., 1401 Fairfax Trafficway, Kansas City, Mo., and Brown & Root, 4300 Calhoun Rd., Houston, Tex., **$4,900,412.** CD 3/21—ENR 3/24.

CONTRACTS AWARDED

Alabama—RURAL DISTRIBUTION LINES—Franklin Electric Co-operative, Russellville, 123.7 mi. rural distr. lines incl. 128.1 mi. primary lines, 12.8 mi. secondaries and 12.7 mi. services lying in north half of Franklin Co. and small portion in southern part of Colbert Co., to Dent Constr. Co., Sheffield, **$205,848.** Bids 3/30. CD 3/16—ENR 3/24.

Ala., Dothan—DRIVE-IN THEATRE—Martin-Davis Theaters, c/o contractor, drive-in theatre, to H. H. Brown Co., Dothan. Approx. **$100,000.**

Florida—RURAL DISTRIBUTION LINES—Choctawachee Electric Co-operative, De Funiak Springs, rural distr. line in farm area, Walton Co. Owner builds. **$180,000.**

Florida—RURAL DISTRIBUTION LINES—Peace River Valley Electric Membership Co-operative, Wauchula, rural distr. line extension serving areas, Hardee Co. Owner builds. **$180,000.**

Ga., Decatur—SWIMMING POOL—City, swimming pool, to C. F. Sheeley Builders, Inc., Decatur, **$75,000.** CD 10-13—ENR 10/21.

Ill., Jacksonville—DRIVE-IN THEATRE—Central Amusement Corp., c/o Edward Bonacorsi, Jacksonville, 460 car capacity drive-in motion picture theatre, on 17.67 acres, 2 mi. south of city, steel screen tower, projection and concession structures, walks, drives, ramps, in-a-car speakers, lighting, drainage and water facilities, etc., 8 separate contracts. Approx. **$125,000.**

Ind., Linton—DRIVE-IN THEATRE—Cassidy, Cassidy & Royer, Patricksburg, drive-in theatre, State Rd. 54 east of here, separate contracts. Approx. **$80,000.**

Ind., Monticello—DRIVE-IN THEATRE—Monticello Drive-in Theatre, c/o J. C. Rickey and L. L. Taylor, Monticello, drive-in theatre, Teeter Rd. (N. Main St.), separate contracts. Approx. **$100,000.**

Iowa—RURAL DISTRIBUTION LINES—Sac County Rural Electric Co-operative, Sac City, addnl. rural distr. lines and sys. improv., Sac Co. Owner builds. **$132,000.** CD 4/1.

Kansas—RURAL DISTRIBUTION LINES—North Central Kansas Electric Co-operative, Belleville, labor only, 210.73 mi. rural distr. lines, Cloud, Republic and Jewell Counties, to Gains & Hon Constr. Co., Horton, **$57,041.** R. H. Reed & Co., Columbus, Kan., engrs.

North Dakota—RURAL DISTRIBUTION LINES—North Central Electric Co-operative, Bottineau, Sect. E-1, 388 mi. rural distr. lines, Bottineau and Renville Counties and Sec. E-3, 251 mi. rural distr. lines, Bottineau, Pierce and Rolette Counties, to E. A. Hitterdal, 2123 Aldrich Ave., S., Minneapolis, Minn., **$186,711** and **$263,624** respectively. Bids 3/23. CD 3/2—ENR 3/10.

●Ohio—TELEVISION RELAY TOWERS — American Telephone & Telegraph Co., Union Commerce Bldg., Cleveland, twenty 26 ft. square 90 to 250 ft. high television relay towers, to National Concrete Fireproofing Co., Terminal Tower Bldg., Cleveland, **$3,080,000.** Awarded 4/11. A. M. Rose, 250 Huron Rd., Cleveland, Div. Transmission Eng. A T & T Co.

●Oklahoma, Texas and New Mexico— OIL PIPELINE, etc.— Texas Pipe Line Co., Texas Co. Bldg., Houston, Tex., to Sheppard-Geiger Constr. Co., 3929 Shell Rd., Corpus Christi, Tex., 13½ mi. 6⅝ in. crude oil pipeline between Markham and Hungerford Junction, including up, reconditioning, refill trench of 13½ mi. 4½ in. line between same 2 points Matagorda Co., Tex., **$95,000***** to Associated Contractors & Engineers, Inc., 1004 Homestead Rd., Houston, Tex., 15 mi. 10¾ in. crude oil pipeline between Wither Station and Lakeview fields, Wharton Co., Tex., **$225,000***** to Latex Constr. Co., 2707 Ferndale St., Houston, Tex., 2.6 mi. gathering line in Chocolate Bayou 2 mi. gathering lines in Manvel, Tex. field, uncovering, taking up and reconditioning and refilling trench of 44½ mi. 8⅝ in. crude oil pipeline from point in Brazoria Co. to Houston Ship Channel, near Brazoria, Tex., **$78,000;** 16½ mi. 6⅝ in. crude oil pipeline between Manvel and Chocolate Bayou oil field toward Houston, Brazoria Co., Tex. **$145,000;** pump station at Haskell, Tex. Approx. **$250,000;** pump station at Odessa, Tex., approx. **$225,000;** pump station at Colorado City, Tex., Approx. **$210,000;** pump station at Lindsay, Okla., Approx. **$190,000,** on Jal, New Mexico-Cushing, Okla. crude oil pipeline, Grand total: Approx. $1,468,010. CD 7/17/47—ENR 7/24/47.

†Oregon—TRANSMISSION LINE—Bonneville Power Admin., 729 N. E. Oregon St., Portland, Zone 8, 21.4 mi. Detroit-Lyons 230 kv transmission line, Inv. 4510, Marion and Linn Counties, to C. J. Montag, N. E. 78 and Halsey Sts., Portland, **$637,504.** Bids 3/15. CD 3/22—ENR 3/31, under LB.

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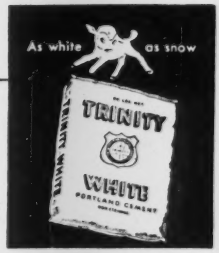

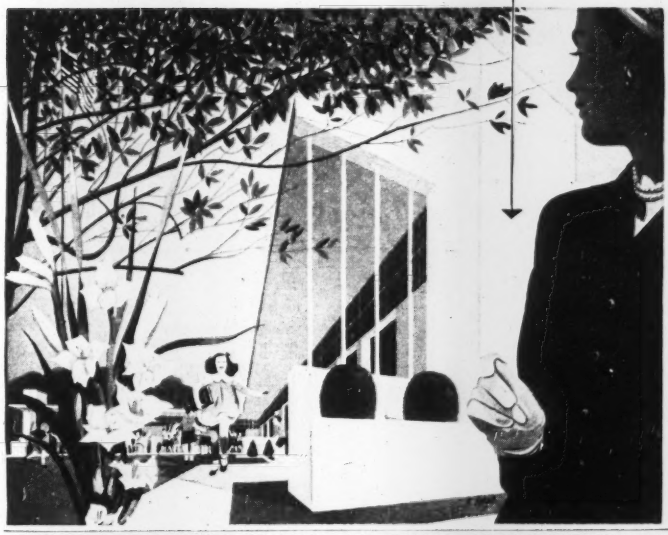

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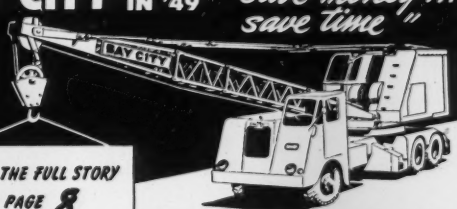

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BAY CITY

BAY CITY SHOVELS, INC., BAY CITY, MICHIGAN

CONSTRUCTION REPORTS—Third Section

WATER SUPPLY

LOW BIDDERS

Ariz., Phoenix—City, installing floodgates on Horseshoe dam, Verde River, from Allison Steel Co., S 19 Ave., Phoenix. $367,160. Est. $407,000. CD 11 29—ENR 12/12.

Calif., Fallbrook—Fallbrook Pub. Utility Dist., P. O. Box 427, rejected bids Apr. 11: 650 ft. dam, appurtenances about 3¾ mi. 60 in. high and east of here. L. B. **$38,131.** Est. $29,834. CD 3/31.

+N. M., Los Alamos—U. S. Atomic Energy Comm., Los Alamos. 13,782 lin. ft. 12 in. c. i. waterlines, 3,300 lin. ft. 10 in. steel gas mains, from Brown & Olds, Los Alamos. **$63,926.** Est. $50,000. CD 3/22—ENR 3/24.

Tex., Dallas—City, Earl Goforth, secy., Apr. 12, waterlines, Barnard and Crafton Sts., etc., from City Constr. Co., 2431 Inwood St. **$36,197.** CD 12 11—ENR 12/23.

Tex., Houston—City, City Hall, Apr. 13, c. i. watermains, Heights Collection sys., from W. P. Holland, 4318 Rosewood Dr. **$138,790*****, c. i. watermains Northeast Well collection sys., Linn, Queen, Estelle, Tucson, Magnolia and Curry Rds., from Hartwell Constr. Co., 653 Kernel St. **$102,354*****Water Supply Wells 1 and 2, from Layne-Texas Co., Ltd., 947 McCarty Dr., **$39,000** and **$46,900** respectively.

CONTRACTS AWARDED

Tex., San Antonio—Wallace Rogers & Son, Travis Bldg., 200,000 gal. water tower, 8 in. lines, Shavino Park, own forces. **$30,000.**

SEWERS, WASTE DISPOSAL

BIDS ASKED

May 2

Calif., Marysville—City, City Hall. (1) sewerage sys. improv. for treatment plant and pumping station (2) intercepting sewers, approx. $50,000. Plans deposit $15. Clyde C. Kennedy, 604 Mission St., San Francisco, engr. CD 1 28 48—ENR 2 19 48.

LOW BIDDERS

Calif., Hayward—City, City Hall, Apr. 11, trunk sewer for Muir District outside city limits, from Ted Baros Constr. Co., 900 73rd Ave., Oakland. **$141,398.** CD 3/29—ENR 3/31.

Calif., Los Angeles—Bd. Supervs. Los Angeles Co., 501 Hall of Records, Apr. 12, sewage disposal sys., Camp Acton, from Edward R. Siple Co., 2545 San Fernando Rd., **$74,000.**

Calif., Pleasanton—Town, sewage treatment plant, from Peter Sorensen, 927 Arguello St., Redwood City. **$148,500.** CD 3 17 48—ENR 4/1/48.

Calif., San Jose—City, City Hall, Apr. 11, sanitary sewers in Cottage Grove Dist., from A. J. Peters & Son, 534 Stockton Ave., **$64,119.**

Md., Towson—Comrs. Baltimore Co., Court House, Apr. 11, drains and sewers, Rosedale Farms Dist., Contr. 458 D & S, from Wm. Ligon III, Ruxton. **$50,898.** CD 4 7 48—ENR 4 7.

Tex., Beaumont—City, O. Plummer, mayor, City Hall, Apr. 12, storm sewers, concrete box and pipe type, Fannin St. from Trott & Thomson, 2940 Crockett St., **$124,162.** Est. $75,000. R. C. Black, city engr.

Tex., Dallas—City, Earl Goforth, secy., Apr. 12, storm sewers, Cooma Creek Dr. from Crockett St. to 2411 Inwood St., **$73,200;** 27,400 lin. ft. 8-in 15-in. sanitary sewer lines, 1st part of Ash Creek and Casa Linda adds., from Texas Bitulithic Co., 111 Commerce St., **$76,937,** est. $100,000. CD 12 31—ENR 1/1.

Tex., Houston—City, Apr. 13, storm sewers, 77 St., Avenue J, Harold and McIlhaffe Sts., from Hartwell Constr. 653 Kernel St. **$57,112.** R. W. Lee, co-owner, engr., CD 9 18 47—ENR 10/2 47.

Wash., Seattle—Greenwood Ave. Sewer Dist., c/o Parker & Hill, engrs., Smith Tower, Zone 4. Apr. 15, 94,000 ft. 6-to 21-in. concrete lateral sewers, Contr. 8, from Valley Constr. Co., 7708 Rainier Ave., **$199,353;** 12,000 ft. 8-to 27-in concrete trunk sewers, from S. S. Mullen, Inc., Aurora and Harrison Sts. **$131,583.** CD 3 29—3/31.

CONTRACTS AWARDED

La., Bastrop—Town, Town Hall, sewer extens., pumic stations, etc., to Blythe Bros. Co., 2911 Hutchinson Ave., Charlotte, N. C., **$353,-535.** Bids 4 11. CD 2 23—ENR 3/10.

Tex., San Antonio—City, relief sanitary sewers, S. Alamo and S. St. Marys to Broadway and 12 Sts., to Howard Stich Plumbing & Utilities, 241 S. W. Military Dr., **$211,110.** Bids 3/2. CD 3 14—ENR 3/17, under LB.

Wash., Camas—City, City Hall, 22,000 ft. 6-to 15-in. sewers, to G. W. Lind, 5000 N. E. Killingsworth St., Portland, Ore., **$143,552.** B. G. Smith, city engr.

Wash., Seattle—Greenwood Avenue Sewer Dist., c/o Parker & Hill, engrs., Smith Tower, Zone 4, to Valley Constr. Co., 7708 Rainier Ave., 20,000 ft. 8 and 10 in. concrete lateral sewers, Contr. 4, **$117,599;** 48,000 ft. 6-to 12-in. concrete lateral sewers, Contr. 5, **$189,729;** 35,000 6-to 10-in. concrete lateral sewers, Contr. 6, **$134,-769;** 39,000 ft. 6-to 10-in. lateral sewers, Contr. 7, **$152,369*****to Joe Lundberg Constr. Co., 3214 E. Republican St., sewage treatment plant, **$65,-743.** Grand total $660,179. Bids 4 13. CD 3 29—ENR 3/31.

Ont., Toronto—Municipality, alterations, additns., to main pumping station Ashbridge Bay Sewage Treatment Plant, to Foundation Co. of Ontario Ltd., 1220 Bay St., **$817,140.** Bids 4 12. CD 3 16—ENR 3/24.

BRIDGES

BIDS ASKED

STATE HIGHWAY LETTINGS

April 26	**April 29**
Iowa	**Alabama**
Maryland	**Kansas**
Michigan	**Washington**
North Carolina	**May 1**
April 28	**Manitoba**
Michigan	**About May 16**
New Jersey	**Maryland**
	May 18
	Louisiana

LOW BIDDERS

+Calif., Oakland—U. S. Eng., 74 New Montgomery St., San Francisco, Apr. 12, foundations, appurtenances for railroad bridge in Oakland Harbor, from Ben C. Gerwick, 112 Market St., San Francisco. **$307,117.** CD 3 23—ENR 3/31.

CONTRACTS AWARDED

Washington—State Hy. Dpt., Olympia, reinforcing box girder bridge and approach slabs 0.043 mi. over Stuck River, FAS 5-054B (1), Pierce Co., to Anderson Bridge Constr. Co., 4130 S. Adams St., Tacoma. **$64,823.** Bids 4 15. CD 3 31—ENR 4 7.

STREETS AND ROADS

BIDS ASKED

STATE HIGHWAY LETTINGS

April 25	**April 29**
Connecticut	**Alabama**
April 26	**Kansas**
Iowa	**Minnesota**
Massachusetts	**New Jersey**
Michigan	**New Hampshire**
Montana	**Washington**
North Carolina	**May 3**
Ohio	**Kansas**
West Virginia	**May 4**
April 28	**California**
Michigan	**Louisiana**
New Jersey	**May 5**
	California
	New Jersey
	Washington

April 26

N. Y., Brooklyn—President Brooklyn Boro. Boro Hall, Zone 2, c. conc.-asph. repaving, Bergen St. from Kingston to Utica Aves., grading, curbing, flagging, asph. paving, E. 4 St. from Avenue W to Ames, N. resurfacing, reflagging, asph. paving 10 Ave. from 60 to 61 Sts.

May 2

Calif., Redding—Shasta Co., Hall of Records, Redding, grading, plant mix surf. 3.722 mi., constr. 115 ft. rein.-con. deck bridge on Hy. 10-D and 1-E, Unit 1, between Shasta-Tehama Co. line and Christenson Acres subdivision. Approx. $50,000. E. D. Breuning, Box 820, engr.

La., New Iberia—City, City Hall, approx. 18,678 sq. yd. c. conc. Plans deposit $10. John W. Rochel, city engr. CD 4 1—ENR 4/7, under LB.

May 3

Md., Baltimore—Mayor & City Council, City Hall, sheet asph. resurf. streets, Contr. 962, J. H. McKay, 202 Municipal Bldg., city engr. CD 2 7 45—ENR 2 22 45.

LOW BIDDERS

Arizona—State Hy. Dpt., Phoenix, improv. state hys. through city of Nogales, w8l'n, improv. 1 mi. of street, Santa Cruz Co., from San Xavier Rock & Sand Co., Tucson. **$199,511.**

+California—Public Roads Admin., 720 Phelan Bldg., San Francisco, Apr. 12, improv. 5.362 mi., Mill Creek, San Bernardino National Park, Calif., 68-E, San Bernardino Co., from Hoss Constr. Co., Inc., 2303 E. Artesia Blvd., Long Beach. **$507,088.** CD 3/29—ENR 3/31.

California—State Div. Hys., Sacramento, Apr. 12, grading and plant mix on untreated rock surf., etc. 2.7 mi. and rein.-con. slab bridge over Berenda Creek between ¼ mi. north of Ash Creek and ½ mi. north of Berenda, Madera Co., from Guy F. Atkinson Co., Box 29, South San Francisco. **$338,802*****, grading 4.2 mi. between easterly line of State Rt. 2, San Miguel and 0.4 mi. east of Estrella, San Luis Obispo Co., from Eaton & Smith, 715 Ocean Ave., San Francisco. **$62,053*****, plant mix on imported base material surf. 2.1 mi. between Cuesta siding and 1 mi. south of Santa Margarita, San Obispo Co., from Granite Constr. Co., Box 900, Watsonville. **$134,455*****place imported base and imported base shoulders and applying hot 161 mi. to upper 3 inches between Winters and Route 7, Yolo Co., from McGillivray Constr., 65 St. and Folsom Blvd., Sacramento. **$122,780.** CD 3 23—ENR 3 31.

Calif., Los Angeles—Bd. Supervs., Los Angeles Co., 501 Hall of Records, Apr. 12, repave La Cienega Blvd. from Slauson to Centinela Aves., near Inglewood, from J. A. Thomason & Son, P. O. Box 518, Inglewood. **$332,058;** est. $250,000 imprv. 2,600 ft. Center St. between Paramount and Lakewood Blvd. and Downey Ave., near Paramount, from John Papee, 1726 N. Hill St., **$64,625.** CD 3/24—ENR 3/31.

Colorado—State Hy. Dpt., Denver, Apr. 13, grading, structures, 0.629 mi. State Hy. 1 between Monument and Husted, Colo. Proj. FI 002-2(6), El Paso Co., from J. H. & N. M. Mongaham Associated Contractors, Route 1, Derby. **$106,713.** Est. $128,221. CD 3/30—ENR 4/7.

Colo., Colorado Springs—City, R. F. Sonnek, secy. clk., City Hall, Apr. 12, approx. 50,000 lin. ft. curb, gutter, from Arkansas Valley Construction Co., Colorado Springs. **$98,553.** CD 4/5—ENR 4/7.

Tex., Beaumont—City, City Hall and Jefferson Co., Apr. 12, c. conc. 1.35 mi. Park St., 20 ft. wide from Austin Road Co., 3000 Singleton Blvd., Dallas. **$65,790.** Est. $18,930. CD 3 29—ENR 3/31.

Tex., Galveston—Galveston Co., Courthouse, grading, drainage structures, flexible base, asph. topping, Kemah, Clear Lake, Clifton, San Leon, Hye-Bacliff Rds., Job No. 6015, from Wilbig Constr. Co., 2026 Singleton Blvd., Dallas. **$52,939;** Dickinson, League City and Friendswood Rds., Job No. 797, from Farnsworth & Chambers Co., Inc., P.O. Box 74, Houston. **$90,397.** C. C. Washington, engr. CD 3 2—ENR 3/18.

Tex., Houston—City, Apr. 13, asph. paving, Bastrop St. from Gulf Bitulithic Co., 2820 Polk St. **$56,799.** CD 6/27 46—ENR 7/11/46.

CONTRACTS AWARDED

Kansas—State Hy. Dpt., McPherson, c. conc. 5.475 mi., S.P. 81-59 F-287 (10), McPherson Co., to M. W. Watson, National Bank of Topeka Bldg., Topeka. **$369,431.** Bids 3/26. CD 3/31.

Md., Baltimore—Mayor & City Council, City Hall, sheet asph. paving streets, Contr. 953, to Baltimore Asphalt Block & Tile Co., 1320 N. Monroe St. **$136,781*****Contr. 954, to American Paving & Contg. Co., 2525 Loch Raven Blvd. **$123,102*****Contr. 955, to P. Flanigan & Sons, Inc., 2405 Loch Raven Blvd., **$122,672*****Contr. 957, to John P. Reddington, 245 E. Lexington St. **$74,026*****Contrs. 958 and 956, to Potamkin Bros. Co., 3700 Gough St. **$55,137** and **$62,768** respectively. Grand total $574,780. Bids 4/13. CD 4/7.

Neb., Decatur—City, street improvs., to Francis Orschel, Fremont. **$52,606.** Est. $52,622. Bids 4 1. Kirkham Eng. Co., 1504 Dodge St., Omaha, engr.

EARTHWORK, WATERWAYS

BIDS ASKED

April 26

Kan., Manhattan—Soil Conservation Service, Regional Office and Nebraska State Office, Lincoln, Neb., test wells, drilling, casing, developing and testing irrigation well.

April 28

+Colorado and Kansas—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, two 24 in. hollow jet valves with 2 control stands, 2 intermediate shafts and 1 set of wrenches for outlet works of Bonny Dam, St. Francis Unit, Missouri River Basin Proj., Stage 2609. Extended date CD 3/15—ENR 3/17.

+Iowa—U. S. Eng., 1709 Jackson St., Omaha, Neb., Levees, Unit H, Serial No. Eng. 25-066-49-137. Extended date 3 29—ENR 3/31.

+Texas—U. S. Eng. 606 Santa Fe Bldg., Galveston, dredging Trinity River from Texas Channel to Liberty, from Houston Ship channel to north of Double Bayou. $140,000. Extended date CD 3/23—ENR 3/31.

+Washington—U. S. Eng., 4735 E. Marginal Way, Seattle, Proj. 4, channel improv., Yakima River, Yakima Co., Serial No. Eng. 45-108-49-143.

April 29

+North Dakota—U. S. Eng., Fort Lincoln, Box 200, Bismarck, levee appurtenances, near Mandan, Serial No. Eng 32-015-49-79. Extended date. CD 3/23—ENR 3/31.

May 5

+Alabama—U. S. Eng., P. O. Box 1169, Mobile, Zone 7, dredging 1,200,000 cu. yd. Mobile Harbor, Serial No. Eng-01-076-49-139.

May 10

+Oklahoma—U. S. Eng., 116 Wright Bldg., Tulsa, clearing Fort Gibson reservoir, and construct brush protection for fish culture, Muskogee Co. $225,000. CD 3/21—ENR 3/24.

May 12

+Texas—U. S. Eng., 606 Santa Fe Bldg., Galveston, dredging 2 m. cu. yd. material from Port Aransas and Corpus Christi Waterway, Inv. No. Eng-41-243-49-267. $150,000. CD 6/9/44—ENR 6/29/44.

†**Texas**—U. S. Engr., 606 Santa Fe Bldg., Galveston, dredging 326,000 cu. yd. material, Cedar Bayou Channel between Atkinson Island and Boaz Island, Harris and Chambers Counties, Inv. No. Eng-41-243-49-268. $10,000.

†**Tex., Galveston**—U. S. Engr., 606 Santa Fe Bldg., dredging 4,931,000 cu. yd. materials, Galveston Channel. Inv. Eng-41-243-49-266. $375,000.

May 17

†**Missouri**—U. S. Engr., 601 Davidson Bldg., Kansas City, 8, Mo., cut-off and channel imprvs., Chariton Co. Unit, Chariton River, involv. 73 acres clearing, 557,500 cu. yd. excav., Serial No. Eng. 23-028-49-194.

About May 18

†**Nebraska**—U. S. Engr., 601 Davidson Bldg., Kansas City 8, Mo., levee and channel cut-offs, Bartley, incl. 181,700 cu. yd. excav., 55,600 cu. yd. semi-compacted fill, 460 cu. yd. filter under riprap, 1,160 tons dumped riprap, 124 lin. ft. 42 in. corrugated metal pipe. No. Eng. 23-028-49-182.

May 24

†**California**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., 9 distr. boards, 1 distr. panel board, one 125 volt battery control and distr. board, two 10-kw battery chargers, 2 fire-control cabinet assemblies, two 150 kva and one 75 kva transformers, 20 thermostats, 3 pressure and 3 temperature switches for Tracy Pumping Plant and Switchyard, Central Valley Proj., Spec. 2642. L. N. McClellen, ch. engr.

LOW BIDDERS

●†**Colorado**—Bureau Reclamation, Dpt. Interior, Monte Vista, Apr. 12, Platoro Dam on Conejos River about 1 mi. upstream from Platoro, San Luis Valley Proj., Spec. 2594, from Hinman Brothers Constr. Co., Ft. Collins, $2,727,792. CD 3/9—ENR 3/17.

†**Illinois**—U. S. Engr., 826 U. S. Court House and Custom House, 1114 Market St., St. Louis, 1, Mo., Apr. 12, road surf. 5.1 mi., levee placing, rip rap stone on spur levee, Degognia and Fountain Bluff Levee and Drainage Dist., Proj. Item IV C, Jackson Co., Serial No. Eng. 23-065-49-112, from Basse & Burd, Atna, $40,820. Est. $45,210. CD 4/1—ENR 4/7.

●†**Missouri**—U. S. Engr., 601 Davidson Bldg., Kansas City 8, Mo., Apr. 14, floodwall, levee, appurtenances, Armourdale Unit, Kansas Citys Flood Control Proj., Serial No. Eng. 23-028-49-159, from Massman Constr. Co., 71 Ry Pass, Kansas City, Mo., $3,126,139. CD 3/21—ENR 3/24.

†**Montana**—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., Apr. 12, earthwork, structures, for relocation forest service road, Sect. 2, Hungry Horse Reservoir, Station 0 plus 00 to 881 plus 00, Hungry Horse Proj. Spec. 2602, from M. Langhim, Inc., Ford Bldg., Great Falls, $368,887. CD 3/15—ENR 3/17.

†**New Jersey**—U. S. Engr., 120 Wall St., New York 5, N. Y., received no bids Apr. 12, dredging 52,400 cu. yd. material except ledge rock from Shark River. CD 3/17—ENR 3/24.

●†**Washington**—Bureau Reclamation, Dpt. Interior, Coulee Dam, Apr. 15, 16.75 mi. extension of East Low Canal on Columbia Basin Proj., incl. construction 6.5 mi. Rocky Coulee wasteway and 2 earth-fill dikes, Spec. 2603, from J. A. Terteling & Sons, 4011 Fairview Ave., Boise, Idaho, $8,029,762. CD 3/16—ENR 3/24.

CONTRACTS AWARDED

†**Idaho**—U. S. Engr., 19 E. Poplar St., Walla Walla, Wash., repairing levees and revetments, Snake River, Serial No. Eng. 23-044-49-16, to Burns Constr. Co., Idaho Falls, $865,805. Est. $53,107. CD 3/24—ENR 4/14.

†**Idaho**—U. S. Engr., 4735 E. Marginal Way, Seattle, Zone 4, Wash., levee imprv. Kootenai River and tributaries, Serial No. Eng. 45-108-49-139, to Ray L. Bain & Co., 1220 Ida St., Spokane, Wash., $54,805. Est. $61,300. Bids 4/15.

AIRPORTS AND AIRBASES

BIDS ASKED

April 28

Tex., San Antonio—AIRPORT—City, Alfred Callaghan, mayor, Alamo Airport imprvs. Proj. 9-041-050-501. $50,000. Jack W. Berry & Engineers, Inc., 302 Travis Bldg., engr. CD 11/29/48—ENR 12/2/48, under LB.

CONTRACTS AWARDED

N. Y., Albany—AIRPORT PAVING—Bd. Contr. & Supply, City Hall, airport paving imprvs., to Louis Longhi & Son, Glens Falls, $594,736. Bids 3/8. CD 3/17—ENR 3/24, under LB.

●†**Alaska**—AIRPORT IMPRVS.—U. S. Engr., APO 942 c/o P.M., Seattle, Wash., outside utilities, D.E.F. 6, to R. & M. Constr. Co., Petroleum Bldg., Oklahoma City, Okla., $2,260,580. CD 3/14—ENR 3/21, under LOP power plant work, D. E. F. 8, to Bechtel & Pomeroy, 220 Bush St., San Francisco, Calif., $1,331,225*** outside utilities at Eielson Air Force Base, D.E.F. 5, to Fred Wager, Auburn, Wash., $662,-300. Grand total $4,254,125.

PUBLIC BUILDINGS

BIDS ASKED

April 29

N. Y., Jamaica—Bd. Transportation, 250 Hudson St., New York, Zone 13, furnishing, erecting structural steel for Jamaica Bus Garage, South Rd. east of 165 St.

About May 1

S. C., Columbia—Richland Co., Columbia, construct Palmetto Div. and kitchen at state park. Plans deposit $50. James B. Urquhart, Palmetto Bldg., archt.

May 3

Calif., Richmond—Richmond School Dist., 1108 Bissell Ave., Richmond, 1 story, 24 classroom frame Potrero School. Approx. $250,000. Plans deposit $20. Dragoon, Schmidts & Hardman, 1320 University Ave., Berkeley, archts. CD 2/19/48—ENR 3/4/48.

N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, foundations and general construction, heating and ventilating, electrical work, and plumbing for Colonial Park Houses, Proj. No. NYC-6, in area bounded by Harlem River Dr., Polo Grounds, Harlem River Driveway. Plans deposit $75. Extended date. CD 3/29—ENR 3/31.

May 4

La., Lake Providence and Monticello—East Carroll Parish School Bd., Lake Providence, 2 brick schools, H. H. Land, Ouachita National Bank Bldg., Monroe, archt.

May 6

†**Tex., Dallas**—U. S. Engr., P. O. Box 61, Tulsa, Okla., remodeling bldg., 4814 Cass St. into Division Laboratory, Inv. No. Eng-34-066-49-99. Approx. $100,000. Bid date changed. CD 4/13—ENR 4/21.

May 9

Calif., Modesto—Modesto Bd. Educ., 14 and I Sts., wood frame, stucco South Franklin School, $250,000. Plans deposit $25. Fred L. Swartz & W. G. Hyberg, Rowell Bldg., Fresno, archts. CD 1/21—ENR 2/5/48.

May 10

California—State Div. Architecture, P. Wks. Bldg., Sacramento, five 1 story, Type A, armories with rein-con. floors and walls, rigid steel bents, 11,000 sq. ft. floor area, in Corona, Montebello, Orange, Oxnard, and Redlands in Ventura, San Bernardino, etc. Counties. Anson Boyd, Sacramento, state archt. Plans deposit $25.

Calif., Torrance—Torrance Unified School Dist., Torrance, steel, stucco Seaside School, Inc., 16 classrooms, cafe, Kindergarten, $400,-000. Plans deposit $100. Daniel, Mann, Johnson, 672 S. LaFayette Park Pl., Los Angeles, archts. CD 2/1—ENR 3/17.

May 11

†**N. M., Las Cruces**—U. S. Engr., P. O. Box 1538, Albuquerque, 100 single type frame, stucco, alt. on masonry type family quarters. Serial No. Eng-29-005-49-75. $750,000. Extended date. CD 4/5—ENR 4/7/1.

May 13

†**N. M., Albuquerque**—U. S. Engr., P. O. Box 1538, 133x173 ft. solid masonry gymnasium, courts, outside utilities, Serial No. Eng-29-005-49-76. $250,000. CD 4/7—ENR 4/21.

May 18

Calif., Berkeley—Bd. Regents University of California, Berkeley, 4 story, partial 70,000 sq. ft. structural steel, partial rein-con. physics bldg. addn. $800,000. Plans deposit $50. Miller & Warnecke, Financial Center Bldg., Oakland, archts. Huber & Knapik, 1 Montgomery St., San Francisco, engrs. CD 9/25/47—ENR to 16/47.

May 19

La., Bogalusa—School Bd. Bogalusa, brick Superior Ave., Terrace and Northside School bldgs. Plans deposit $25 each. Wm. R. Burk, 414 Pan American Bldg., New Orleans, archt. CD 6/15/44—ENR 6/22/44.

June 15

●†**Ariz., Phoenix**—U. S. Engr., 751 S. Figueroa St., Los Angeles, Calif., 200-bed hospital, $1,-500,000. Lesher & Mahoney, Title & Trust Bldg., archts. CD 1/28—ENR 2/17.

LOW BIDDERS

Calif., Fresno—Fresno Co., Courthouse, rejected bids Mar. 29, 2 story, 24,000 sq. ft. floor space nurses' home at Fresno County General Hospital, L.B. $413,000. CD 4/5—ENR 4/7, under LB.

Calif., Imola—State Div. Architecture, P. Wks. Bldg., Sacramento, Apr. 12, 2 story, basmt., 25,000 sq. ft. rein-con. administration bldg. at Napa State Hospital, from Pacific Coast Builders, 2530 18 St., San Francisco, $288,-782. CD 3/24—ENR 3/31.

Calif., Los Angeles—Bd. Supervs. Los Angeles Co., 501 Hall of Records, Apr. 12, Wayside Honor Farm, recreation and assembly bldg., mess hall, etc. addn., alterations, castaic, from Harvey A. Nickols, 936 E. Slauson Ave., $257,-880. CD 3/24—ENR 3/31.

Colo., Denver—City and Denver Co. School Dist. 1, W. Grant, pres. Bd., 414 14 St., Apr. 13, general contract Beach Court School addn., from Industrial Constructors, 901 Walnut St., $300,950. CD 12/27—ENR 1/20.

●**Idaho, Twin Falls**—Twin Falls County Hospital Assn., Twin Falls, Apr. 12, 5 story, basmt., 75x290 ft., rein.-con. hospital, from Brennan & Cahoon, Inc., Pocatello, $1,219,160. CD 3/18—ENR 3/24.

●**Md., Baltimore**—Lexington Market Authority, J. Cookman Boyd, Jr., 405 Davison Bldg., Apr. 13, 1 story, brick, steel market bldg., rein.-con. brick parking bldg., from Consolidated Eng. Co., 20 E. Franklin St., $2,563,000. CD 4/7.

Md., Baltimore—Mayor & City Council, City Hall, Apr. 13, 2 story, brick gymnasium addn., 5 story brick bldg. addn., Dunbar Junior and Senior High School, from Charles R. Scrivener Co., Inc., 334 St. Paul Pl., $943,830. CD 3/16—ENR 3/24.

Md., Frederick—Frederick Memorial Hospital, Frederick, rejected bids Mar. 22, north wing addns., alterations, Baker Wing and boiler House. L. B. $193,333. CD 4/7—ENR 4/21, under LB.

Tex., Alamo Heights (San Antonio P.O.)—Alamo Heights Independent School Dist., c/o A. E. Robertson, pres., 5941 Broadway, Alamo Heights, San Antonio, Apr. 12, high school, heating plant, from G. W. Mitchell, 612 American Hospital & Life Bldg., San Antonio, $776,-000. CD 3/28—ENR 3/31.

CONTRACTS AWARDED

Idaho, Nampa—School Dist. 131, Nampa, 1 story, 50x227 ft. and 50x255 ft. brick frame school, to C. B. Lauch Constr. Co., 435 Ada St., $330,491. Bids 4/11. CD 3/31.

Ia., Mount Pleasant—City, J. P. Budde, clk., City Hall, power piping, painting, municipal light and power plant, to Moffett & Troon, 4 Smithfield St., Pittsburgh, Pa., $120,709. Bids 4/6. CD 3/29—ENR 3/31.

Tex., Beaumont—Beaumont Independent School Dist., Beaumont, 1 story 16 classroom Millard School; 1 story Adams Negro School, masonry and concrete constr., to R. F. Farnsworth Co., Box 74, Houston, $264,542. Bids 4/5. CD 3/28.

Tex., Houston—Houston Independent School Dist., 1600 Washington St., School, to Williams Constr. Co., P. O. Box 9162, $568,200. Bids 4/7, awarded 4/12. CD 4/13—ENR 4/21, under LB.

COMMERCIAL BUILDINGS

BIDS ASKED

May 3

Tex., Bryan—College Ave. Baptist Church Congregation, Bryan, church, $250,000. Extended date. Norvell Mayfield, 1505 College Ave., engrs. CD 3/2—ENR 3/10.

May 6

●**Que., Montreal**—A. J. C. Paine, archt., Sun Life Bldg., 3 story, basmt., 100x200 ft. concrete, steel, brick gymnasium and swimming pool, for Metcalf Unitarian Church, Sherbrooke St. $1,250,000. B. R. Perry, 1168 Ste. Catherine St. W., engr. CD 1/28/48—ENR 2/19/48.

May 17

●**La., New Orleans**—De Paul Sanitarium, Sister Ann, administrator, 1625 Henry Clay Ave., 5 story, 58x235 ft. concrete, brick, limestone bldg. addn. $1,250,000. CD 2/4—ENR 2/10.

SOON LETS CONTRACT

Tex., Houston—Congregation Beth Israel, 1418 Holman St., soon lets contract masonry synagogue addn., alterations, remodeling, $250,000. Irving R. Kelin, Bankers Mortgage Bldg., engr.

Tex., Houston—National Steel Co., 1901 Franklin St., soon lets contract 36x163 ft., brick, stone, concrete office, $250,000. C. J. Klein, 1303 Austin St., engr. and Engineering Dept. of Weirton Steel Co., Weirton, W. Va., engr. CD 3/22—ENR 3/31, under Industrial Bldgs.

LOW BIDDERS

Calif., Patterson—Patterson Community Hospital, S. 8 St., Apr. 11, 25-bed frame hospital, from Matthew A. Little, 1 Grand View St., San Francisco, $107,000. CD 3/9—ENR 3/17.

CONTRACTS AWARDED

●**Calif., Venice**—Westchester Investment Co., 739 N. Highland St., Los Angeles, 12 frame, stucco apartment, owner builder, $1,011,919. Martin Stern, Jr., 8039½ Santa Monica Blvd., Beverly Hills, archt.

Ga., Griffin—Griffin-Spalding County Hospital Authority, Griffin, hospital, to Ratson-Cook Co., West Point, $925,411. Bids 4/7. CD 4/14—ENR 4/21, under LB.

Ill., Chicago—State Madison Bldg., c/o F. C. Wells, in charge, L. J. Sheridan & Co., mgrs., State and Madison Sts., general contract 1 story drug store alterations, to T. F. Harrett Constr. Co., 6247 S. Park St., approx. $700,000. Holabird & Root & Burgee, 18 N. Wabash St., archt. CD 4/1—ENR 4/21.

Proposal Advertisements see pp. 70 to 72

OFFICIAL PROPOSALS

RATE: *THE RATE FOR OFFICIAL PROPOSAL ADVERTISING IS $1.00 PER LINE (OR FRACTION) PER INSERTION.*

COPY RECEIVED *UP TO 3:00 P. M. FRIDAY FOR ISSUE OUT FOLLOWING THURSDAY SUBJECT TO SPACE OPEN FOR LAST MINUTE ADS*

SEND COPY *TO OFFICIAL PROPOSAL DIVISION, ENGINEERING NEWS-RECORD, 330 W. 42ND ST., NEW YORK 18, N. Y.*

U. S. Government

BIDS FOR BANK GRADER UNITS—Memphis District, Corps of Engineers, P.O. Box 37, Memphis 1, Tenn. Sealed bids will be received here until 11:00 a.m., C.S.T., 26 April 1949, and then publicly opened, for furnishing two mechanical bank grader units each consisting of: a 185' boom diesel electric dragline grader machine; a steel grader barge 130' x 70' x 8'-6"; and a steel mooring barge consisting of 2 sections each 200' x 15' x 9', hoited and welded into one 400' unit. Deposit on plans $10.00 for dragline grader machine, $15.00 for grader barge, and $15.00 for mooring barge. Information on request.

(958)

OFFICIAL PROPOSALS

Bids: May 10, 1949 (990)

Sections of Outfall Sewer

NOTICE TO BIDDERS
THE LINDEN ROSELLE SEWERAGE AUTHORITY
LINDEN, N. J.

1. Sealed proposals for the construction of CONTRACT "1A", being a portion of an Outfall Sewer in the CITY OF LINDEN, NEW JERSEY, will be received by the Linden Roselle Sewerage Authority at its meeting place in the Linden Public Library at Linden, until 8:00 P. M. on Tuesday, May 10, 1949, and then be publicly opened and read immediately thereafter.

2. The work will consist of providing all labor, materials, equipment and incidentals required for the construction of approximately 160 feet of Sixty-inch Diameter Reinforced Concrete Sewer Pipe and appurtenances across the proposed New Jersey State Highway Route 1-9 and approach road thereto.

3. Plans, Specifications, Bidding and Contract Documents may be examined at the office of the Consulting Engineers, ALEXANDER POTTER ASSOCIATES, 50 Church Street, New York 7, N. Y., and there obtained upon Deposit of TEN ($10.00) DOLLARS PER SET. Full refund will be made to actual bidders for return of One (1) set, in good condition, within Ten (10) Days after closing date for Receipt of Bids; refund for return of all other sets, in good condition, within the same period, will be Fifty Percent (50%) of the deposit.

4. All proposals must be on the form furnished by the Authority.

5. All bids must be accompanied by a Certified Check or acceptable Bidders' Bond in the amount of TEN (10%) PER CENT of the amount of the Bid made payable to the Linden Roselle Sewerage Authority. Said checks or bonds will be returned to the unsuccessful bidders not later than Thirty (30) Days after Opening of Bids.

6. The successful bidder will be required to furnish a Performance Bond conditioned upon the faithful performance of the Contract and upon the payment of all persons supplying labor and furnishing materials on the construction of the work.

7. No bidder may withdraw his bid within Thirty (30) days after closing date for receipt of bids.

8. The Authority reserves the right to reject any or all bids, and to waive any informality in the bid.

BY ORDER OF THE SECRETARY OF
THE LINDEN ROSELLE SEWERAGE
HERBERT D. BANTA
Dated April 21, 1949

OFFICIAL PROPOSALS

Bids: May 9, 1949 (991)

Landscaping at Federal Building

THE PORT OF NEW YORK AUTHORITY

NEW YORK INTERNATIONAL AIRPORT

CONTRACT NYA-86

Sealed proposals for landscaping at the Federal Building at New York International Airport, will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 11:30 A. M. Monday, May 9, 1949, at which time and place said proposals will be opened and read.

Contract documents may be seen at the office of the Chief Engineer, and copies will be furnished upon deposit of $10.00 per set. The deposit will be refunded if the documents are returned in good condition, not later than thirty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman,
Chairman.

New York, April 21, 1949.

Bids: May 5, 1949 (992)

State Road Work

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

PALISADES INTERSTATE PARKWAY, N. J. SEC. 1A

Construction of Palisades Interstate Parkway, New Jersey Section 1A, from a point North of Clinton Avenue to a point South of Hudson Avenue, in the Borough of Tenafly, Bergen County. Length 0.82± miles.

Estimated:

Roadway Items

15,500 cu. yds. Roadway Excavation-Earth

58,900 cu. yds. Roadway Excavation-Rock

77,700 cu. yds. Borrow Excavation

Bridge Items

68,400 lbs. Rein. Steel in Structures

290 cu. yds. Concrete in Structures

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, New Jersey, on Thursday, May 5, 1949, at ten o'clock (10:00 A. M.—EASTERN STANDARD TIME), eleven o'clock (11:00 A. M.—DAYLIGHT SAVING TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

OFFICIAL PROPOSALS

Bids: May 2, 1949 (993)

Auditorium Building for the City of Miami Beach

NOTICE TO CONTRACTORS
OFFICE OF THE CITY ENGINEER
Miami Beach, Florida
April 14, 1949

Sealed proposals will be received at the above office until 11:00 A. M., on the 2nd day of May, 1949, for the constructing of an Auditorium Building in the City of Miami Beach, County of Dade, State of Florida, as required to be constructed by the City Council of said City.

All work is to be done in accordance with the Plans, General Conditions, Specifications, Proposal and Contract of the City of Miami Beach, as prepared by L. Murray Dixon, Henry Hohauser and Russel T. Pancoast and Associates, Architects, and the plans and specifications will be available to bidders at the office of Russell T. Pancoast and Associates, 927 - 41st Street, Miami Beach, Florida, on or after April 14, 1949. All applications must be accompanied by a certified or cashier's check payable to the City of Miami Beach, Florida, in the amount of $50.00. After a bid is submitted this deposit will be returned by the City Clerk upon return of the plans and specifications in good condition to the office of the City Engineer.

No bids will be received unless accompanied by a certified check or cashier's check or bid bond in an amount not less than 2½% of the total amount of the Proposal and made payable to the "City of Miami Beach", which is to accompany each proposal.

The right is reserved to reject any and all bids and to waive all formalities.

CITY COUNCIL, CITY OF MIAMI BEACH
(Signed) C. W. Tomlinson
City Clerk.

(Continued on page 71)

CONTRACTORS WATCH THIS SECTION

for New Projects

Publish your announcements thru the "Proposal Section" of Engineering News-Record and get their bids.

OFFICIAL PROPOSALS

(Continued from page 70)

Bids May 5, 1949 (986)

Underground Piping, Meter, Meter Pit, Hydrants, Valves, Etc.

NOTICE TO CONTRACTORS
FOR HELDERVALE WATER DISTRICT
TOWN OF NEW SCOTLAND
ALBANY COUNTY, NEW YORK

Sealed bids for the furnishing of all labor and materials, the installing of water mains, fittings, hydrants, valves, meter, pit, connection to existing main, tapping and connecting existing house laterals to mains, and other appurtenances, will be received by the Town Board of New Scotland, at the Town Clerk's Office, Voorheesville, New York until 8:00 P. M. Eastern Daylight Saving Time on Thursday, May 5, 1949 and at said office will be publicly opened and read. The information for Bidders, Form of Bid, Form of Contract, Plan, Specifications and Performance Bond may be examined at the office of the Town Clerk, Voorheesville, New York and at the Residence of William D. Jordan, 142 Adams Place, Delmar, New York. Copies thereof may be obtained at the Town Clerk's Office, or at the Residence of William D. Jordan upon payment of $10.00 for each set. Any bidder upon returning such set promptly and in good condition will be refunded his payment, and any non-bidder upon so returning such set will be refunded $5.00. All deposits not redeemed under the above procedure shall accrue to the Engineer.

The Town Board of the Town of New Scotland, New York, hereby reserves the right to reject any or all bids or accept the one that in its judgment will be for the best interests of the Heldervale Water District, Town of New Scotland, New York.

Each bidder must deposit with his bid cash or a certified check in an amount of not less than five percentum (5%) of the base bid and subject to the conditions provided in the "Information for Bidders," and "General Conditions of Contract."

No bidder may withdraw his bid within thirty (30) calendar days after the actual date of the opening thereof.

The successful bidder will be required to furnish a performance bond satisfactory to the Town Board of New Scotland, New York, in the full amount of the contract, and having as surety thereon such Surety Company acceptable to the Town Board.

Town Board of the Town of
New Scotland, N. Y.
Willis McIntosh, Supervisor
George Billington
Howard Chaffee
Allen R. Hurst
Frank W. Crookes
John C. White, Clerk.

Bids: April 28, 1949 (985)

State Road Work

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

ROUTE 23, SECTION 8C

For the construction of Route 23, Section 8C, Wallkill River Bridge and Channel Relocation, near Hamburg, Sussex County. Length 0.107 miles.

Roadway Items

Estimated:
15,100 cu. yds. Roadway Excavation-Earth
21,500 cu. yds. Channel Excavation-Earth

Bridge Items

2,465 cu. yds. Concrete in Structures
210,800 lbs. Structural Steel
91,000 lbs. Rein. Steel in Structures

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, New Jersey, on Thursday, April 28, 1949, at ten o'clock (10:00 A.M.—EASTERN STANDARD TIME), eleven o'clock (11:00 A.M.—DAYLIGHT SAVING TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

Bids: April 28, 1949 (987)

State Road Work

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

ROUTE 56, SECTION 2

For the widening of Route 56, Section 2, Absecon Boulevard from Kuehnle Avenue to South Carolina Avenue, City of Atlantic City, Atlantic County. Length 0.343 miles.

Roadway Items

Estimated:
7,200 cu. yds. Roadway Excavation-Earth
19,000 sq. yds. 8" Gravel Base Course
16,500 sq. yds. 3" Mod. Pen. Mac. Inter. Course
2,300 tons Pavement, Type FA-BC-1

Bridge Items

130 cu. yds. Concrete in Structures
17,500 lbs. Rein. Steel in Structures
16,000 lbs. Structural Steel
2,160 lin. ft. Treated Timber Piling
22M. B. M. Treated Timber

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, New Jersey, on Thursday, April 28, 1949, at ten o'clock (10:00 A.M.—EASTERN STANDARD TIME), eleven o'clock (11:00 A.M.—DAYLIGHT SAVING TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

Bids: April 18, 1949 (988)

State Road Work

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

ROUTE 4 PARKWAY, SECTIONS 2B & 2C

Construction of Route 4 Parkway, Sections 2B and 2C, Bridges and Approaches at Route 25 and Port Reading Branch of Reading Company, Woodbridge Township, Middlesex County. Federal Project U-188(9). Length 0.328 miles.

Roadway Items

Estimated:
60,800 cu. yds. Roadway Excavation-Earth
6,600 cu. yds. Borrow Excavation
1,400 sq. yds. 10" Rein. Conc. Surface Pavement

Bridge Items

8,563 cu. yds. Concrete in Structures
302,375 lbs. Rein. Steel in Structures
1,504,685 lbs. Structural Steel
14,455 sq. ft. Random Masonry
120 cu. yds. Dimension Masonry

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, N. J., on Thursday, April 28, 1949, at ten o'clock (10:00 A.M.—EASTERN STANDARD TIME), eleven o'clock (11:00 A.M.—DAYLIGHT SAVING TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

NOTE: The proposed project is a "Federal Aid Project" authorized by the provisions of Title 23 of the Revised Statutes of New Jersey and supplements and by Sections 2, 3 and 4, P. L. 521, 78th Congress and is to be performed in accordance with the special provisions and requirements of the Federal Works Agency, Public Roads Administration, as outlined in the specifications, which provisions require that labor be employed from lists furnished by the State Employment Service, Cor. Maple and Fayette Streets, Perth Amboy, N. J. The attention of bidders is directed to the special provisions covering subletting or assigning the contract. The minimum wage paid to all unskilled labor employed on this contract shall be 65¢ per hour. The minimum wage paid to all intermediate grade of labor employed on this contract shall be 75¢ per hour. The minimum wage paid to all skilled labor employed on this contract shall be $1.25 per hour.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

(Continued on page 72)

READ THE OFFICIAL
PROPOSAL COLUMNS OF
ENGINEERING NEWS-RECORD
THIS WEEK AND EVERY WEEK

OFFICIAL PROPOSALS
(Continued from page 71)

Bids: May 4, 1949 (984)

State Highway Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Chapter 63 Laws of 1936, as amended, and special provisions for projects financed with federal aid funds, sealed proposals will be received until ten-thirty o'clock A.M., advanced standard time, which is nine-thirty o'clock A.M., eastern standard time on Wednesday, May 4, 1949 by Henry A. Cohen, Director, Bureau of Contracts & Accounts, 14th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects: Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts & Accounts, Albany, N. Y., and at the office of the District Engineers noted below, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for plans and proposal forms for each contract containing 1 to 15 sheets is $5.00; 16 to 30 sheets, $10.00; over 30 sheets, $20.00. A refund will be made in full to bidders for the return of one set in good condition within 30 days of award or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
		DISTRICT No. 1				
		G. L. NICKERSON, Dist. Engr., 333 Broadway, Albany, N. Y.				
Warren	RC 49-46	Glens Falls-Lake George, S.H. 2 30 417 Luzerne-Lake George Pt. 2, S. H. 805	Asph. Conc. Opt.		$4,500 Plans $5.00	$81,000
		DISTRICT No. 2				
		L. KETCHUM, Dist. Engr., 109 No. Genesee St., Utica, N. Y.				
Madison	FARC 49-47	Cazenovia-Morrisville, S. H. 12 68 5329 Morrisville-Bouckville, S. H. 5330 Cazenovia Village Pt. 2, S. H. 8119. Proj. F190.3, F295.3	Road Side Improvement		$6,000 Plans $5.00	$100,000
		DISTRICT No. 4				
		A. R. MULLIGAN, Dist. Engr., Barge Canal Terminal, Rochester, N. Y.				
Monroe	RC 49-48	Hamlin Pt. 2, S. H. 81	2 48	Road Mix. Bit. Mac. Opt.	$5,000 Plans $5.00	$81,000
		DISTRICT No. 5				
		C. R. WATERS, Dist. Engr., 65 Court St., Buffalo, N. Y.				
Cattaraugus	ASP 49-1	Allegany State Park English 11 05 Stoddard & Quaker Run Rds.		Brk. Stone Single Surf. Treat. or Brk. Slag Single Surf. Treat.	$1,000 Plans $5.00	$17,483 or $19,368
		DISTRICT No. 8				
		J. S. BIXBY, Dist. Engr., Pleasant Valley Rd., Poughkeepsie, N. Y.				
Westchester	RC 49-50	White Plains-Rye Lake, S. H. 0 90 5226		Asph. Conc. Opt.	$2,500 Plans $5.00	$47,000
Westchester	FGRC 49-51 FARC 49-52	Separation of Grades, N. Y. 0 58 C.R.R. with Whitehall Cors., Rights Cors. S. H. 1324 Proj. F 043.11; Proj. FG 043.11		Rig. Fr. 40', 50', 60' IB Alpha 60° Alpha $219.10 Conc. 8" Thk. 22' 48' Wdt.	$25,000 Plans $5.00	$428,000
		DISTRICT No. 10				
		J. J. DARCY Dist. Engr., Montauk Hwy at Little Neck Rd., Babylon, Long Island, N. Y.				
Bronx	FAMDL 49-1	Maj. Deegan Exp. Cont. 1A 0 72 Proj. I-1082-2		Service Rds. Pavt. Grd. & Drain	$150,000 Plans $20.00	$2,600,000
Nassau	FARC 49-49	North Hempstead Turnpike 1.17 S. H. 9018 Proj. F541.7)		Conc. 9" Thk., 61' & Var.	$40,000 Plans $10.00	$685,000
Suffolk	SSP 49-2	Southern State Parkway; Deer Park Ave. to Howells Rd.	2 16	Conc. 8" Thk. 2 @ 25' Wdt.	$40,000 Plans $20.00	$693,000

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by cash, draft or certified check payable to the order of "State of New York, Commissioner of Taxation & Finance" for the sum as specified in the advertisement and the proposal. The retention and disposition of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders".

When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

The right is reserved to reject any or all bids.

B. D. TALLAMY
SUPT. OF PUBLIC WORKS

Bids: May 11, 1949 (974)

Northeast Tunnel

CONTRACT SECTION 1
FOR THE
DEPARTMENT OF WATER SUPPLY
CITY OF DETROIT, MICHIGAN
CONTRACT NO. DWS-27

Sealed proposals for the construction of steel will be received by the Board of Water Commissioners of the City of Detroit, at Room 500, Water Board Building, 735 Randolph Street, Detroit 26, Michigan, until 10:00 A.M. Eastern Standard Time, May 11, 1949, at which time and place they will be opened and read aloud. Proposals shall be addressed to the Board of Water Commissioners of the City of Detroit, and endorsed "Proposal for Contract No. DWS-27". Any proposal received after the time referred to above will be returned to the bidder unopened.

The work consists of the construction of approximately 5851 lineal feet of tunnel 16 feet in inside diameter, with tunnel lining of plain concrete or brick masonry. The tunnel connects to an existing branch at Pennsylvania and Forest Avenues, lies in Pennsylvania Avenue from that point to Gratiot Avenue, and continues north-east on Gratiot Avenue for approximately 700 feet.

The Contract Documents, including Notice to Bidders, Form of Proposal and Contract, Plans and Specifications, may be examined, and obtained during business hours, at the office of the Department of Water Supply, Room 706, Water Board Building, Detroit, Michigan.

Each proposal shall be accompanied by a certified check or a satisfactory bidder's bond in an amount not less than five per cent (5%) of the total lump sum price bid, drawn payable to the City of Detroit, Board of Water Commissioners, as security for the acceptance of the Contract.

No proposal may be withdrawn for at least 60 days after the scheduled closing time for receipt of bids.

The Board of Water Commissioners reserves the right to waive any informality in any bid and to accept or reject any or all bids, should it deem it to be for the best interests of the City of Detroit so to do.

CITY OF DETROIT
BOARD OF WATER COMMISSIONERS
Carl J. Schoeninger, President
Edward C. Roney, Vice President
R. K. Williams
Oscar Wagner
L. G. Lenhart,
General Manager and Chief Engineer
E. H. Bauer,
Acting Secretary

OFFICIAL PROPOSALS

Bids: May 2, 1949 (973)

Clearing, Grading and Drainage System of Airport

The Puerto Rico Transportation Authority will receive sealed bids for Clearing, Grading and Drainage System of the Puerto Rico International Airport, Projects No. 9-53-001-701 and No. 9-53-001-502 San Juan, Puerto Rico, until *2:00 P. M.* (Atlantic Standard Time) on the *second* day of *May*, 1949, at San Juan, Puerto Rico, at which time and place all bids will be publicly opened and read aloud.

The bidders will be required to submit proposal for both projects. Proposal for only one of the Projects will not be accepted.

The successful bidder will be required to furnish satisfactory performance and payment bond or bonds.

All bids shall be based on wage rates not less than the minimum wage rates as predetermined by the Secretary of Labor of the United States, schedule of which is included in the Specifications.

Attention is called to the fact that the project is exempted from the 3% Insular tax on public works contracts.

Proposed forms of contract documents, including plans and specifications, are on file at the office of the Chief Engineer of the Puerto Rico Transportation Authority, at San Juan, Puerto Rico.

Copies of the documents may be obtained by depositing $100.00 with the Puerto Rico Transportation Authority for each set of documents so obtained. The amount of the deposit will be refunded to each person who returns the plans and documents in good condition within 10 days after the opening of bids.

The Puerto Rico Transportation Authority reserves the right to reject any or all bids and waive any informalities in bidding.

A certified check or bank draft payable to the Puerto Rico Transportation Authority, U. S. Government Bonds, or a satisfactory bid bond executed by the bidder and acceptable sureties in an amount equal to (5%) five per cent of the bid shall be submitted with each bid.

SALVADOR V. CARO
General Manager

Bids: May 19, 1949 (989)

Intercepting Sewer

Sealed proposals will be received at the office of the Department of Service and Buildings of the City of Dayton, State of Ohio until 12:00 o'clock noon Thursday, Eastern Standard Time, May 19, 1949, for furnishing all materials and constructing Section one of an Interceptor Sewer in the bed of the Great Miami River from Longworth Street to Floral Avenue, and thereafter will be publicly opened and read.

This section consists primarily of approximately 9500 linear feet of reinforced concrete box sewer varying in size from 7'-5" x 4'-9" to 15'-5" x 9'-8" and appurtenant structures. The location is in the bed of the Great Miami River between low water and the toe of the levee. The project may be bid as a whole or in two parts, which are approximately equal. It is to be assumed that the total cost of the improvement will not exceed $844,497.47. Bids shall be accompanied by a certified check upon some solvent bank or a bond executed by a surety company authorized to do business in Ohio or a bond of the United States or the City of Dayton for a sum equal to 5% of the amount of the bid submitted as a guarantee that if the bid is accepted that a contract will be entered into and its performance properly secured. Plans, specifications, and proposal forms may be obtained from the Director of Service and Buildings, Municipal Building, Dayton 2, Ohio upon payment of $15.00 for each set. Checks shall be made payable to the City of Dayton. No refund will be made for the return of the plans. The City reserves the right to reject any or all bids or to accept the proposal which appears most advantageous.

George F. Baker
Director of Service and Buildings
Municipal Building
Dayton 2, Ohio

"Opportunity" Advertising:
Think
"SEARCHLIGHT"
First

SEARCHLIGHT SECTION

EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESALE

WANTED
CHIEF DRAFTSMAN

age 35 to 50, structural design background with broad supervisory design experience on tunnels, bridges, harbors and municipal work, by Southern engineering firm. Must be able to work with management, lead men and get results. Salary commensurate with ability. Submit record education, experience, availability and references to

P-8532, Engineering News-Record
520 North Michigan Ave., Chicago 11, Ill.

WANTED MAY 1ST

Engineering Graduate, qualified to direct aggregate production in Northwest in connection with large dam project. Depot located 60 miles from town of any consequence. Must be aggressive and able to supervise project accounting, purchasing, and labor relations. Right man can be built up with this experience as valuable asset to our organization. Write

P-8718, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

EXPERIENCED
ORNAMENTAL IRON DRAFTSMAN

Excellent opportunity with live growing organization in the South. Apply giving age, experience, references and salary required.

SOUTHERN ENGINEERING COMPANY
Charlotte, N. C.

WANTED—Mechanical and Structural Engineers For designing and detailing work on concrete reinforcement, structural steel and hangar door construction. Requirements are three to four years practical experience or recent graduation from technical school. Desirable working conditions and opportunities for advancement. These openings are with a nationally known steel fabricating company, located in eastern Ohio. Applicants will please submit a record of their qualifications.

P-7737, Eng. N-R, 520 N. Mich. Ave., Chicago

ESTIMATOR

Wanted by expanding concern doing underground power, telephone conduit, water and gas main construction in Boston, Mass. Experienced man preferred. Permanent position. Excellent opportunity for right party. State qualifications, exp., age, former employers references and salary req.

P-8489, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

MAN WANTED
SALES ENGINEER

For selling and promoting asphalt construction and materials. Permanent position and excellent opportunity for right man. State qualifications and references.

SW-8369, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

Watch—
the *Searchlight Section*
for
Equipment Opportunities

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

CIVIL SERVICE

WANTED: BY Missouri State Highway Department, Jefferson City, Missouri, several experienced detailers and designers on reinforced concrete and steel bridges. Permanent position. Salary range up to $400 per month. Give complete details of education and experience.

WANTED: OFFICE Engineer for county highway department, duties will consist of office work generally, must be able to plan road grades, calculate earthwork, quantities and work up plans for culvert and bridge work. Contact County Engineer's Office, Guthrie Center, Iowa.

SANITARY ENGINEERS. Maryland State Department of Health. Degree in Sanitary Engineering at least 6 years sanitary engineering experience, 2 of which in responsible charge, starting salary $5600; degree in Sanitary Engineering, 4 years experience, starting salary $4246. Five day week, retirement plan. George L. Hall, Chief Engineer, 2411 N. Charles Street, Baltimore 18, Md.

POSITIONS VACANT

WANTED—ENGINEERS, Architects, Draftsmen experienced in the design of sewers, sewage treatment plants, water treatment plants and industrial buildings. Also engineers to supervise construction. State qualifications, experience, salary requirements and date available. P-1155, Engineering News-Record.

CONTRACTORS ASSISTANT—Young, growing firm of general contractors wants an aggressive engineer to handle purchasing and engineering work on commercial and public buildings. Graduate preferred. Permanent position. No traveling. Midwestern location. Salary open. P-8556, Engineering News-Record.

ENGINEER, CIVIL, experience in surveying, drafting, quantity estimating and field supervision. Write P.O. Box 755, Langley Field, Va.

POSITION VACANT. Professor and Chairman of department of Civil Engineering, Eastern University. Recognized specialist in Sanitary Engineering, with teaching and administrative experience preferred. P-8701, Engineering News-Record.

WANTED—BRIDGE Superintendent for reinforced concrete girder, box type bridge. Location Pacific Northwest. P-8687, Engineering News-Record.

WANTED: EXPERIENCED estimators, by large, established general contractor for work in New Mexico. Please write Engineering News-Record, P-8690, giving in detail, education, age, experience and family status. P-8690, Engineering News-Record.

SELLING OPPORTUNITY OFFERED

SALES ENGINEER With engineering or architectural training. Experience in sales and estimating of reinforcing bars and steel windows preferred. Location Southeast. State salary, age, experience, availability and enclose recent snap shot. Southern G F Company, 263 Decatur St., S. E., Atlanta, Georgia.

POSITIONS WANTED

CIVIL ENGINEER Graduate—Registered and experienced mining engineer. Age 27. Domestic or foreign location; single, no dependents and available on short notice. PW-8480, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT — 25 years all types industrial and chemical construction, inspection and liaison. Master mechanic on mechanical installation, piping, detailing and maintenance. Versatile, organizer, field and office management, purchasing, etc. Fine labor relations record and capable of handling problems. Travel, no preference as to location. PW-8664, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT: over 15 years experience in commercial, industrial, and governmental work. Excellent references. PW-8317, Engineering News-Record.

PLASTEEL
Protected Steel
ROOFING AND SIDING
for Industrial Buildings

Some territories available for Representation

Prefer men with Engineering background familiar with industrial building construction. *Write*

PLASTEEL PRODUCTS CO.
Washington, Pa.
(See our advertisement in display section of this paper)

SALESMAN

having good contacts among large general contractors. In the construction line, to sell lumber. Experience in lumber business not essential, but capable of producing substantial business. Write stating age.

SW-8703, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

POSITIONS WANTED

PROJECT MANAGER: General, Job Superintendent; 30 years experience; heavy and light construction, housing; apartments, schools, hospitals; office buildings, chemical industrial plants; powerhouses; handle all trades including mechanical and allied work. PW-8576, Engineering News-Record.

ACCOUNTANT, 54 desires location. Prefer foreign. 33 years bookkeeping, cost accounts and other essential. 5½ years in Tropics. Have some knowledge of Spanish. Valid passport. P. O. Box 424, Lenoir City, Tenn.

STRUCTURAL DESIGN Engineer. Graduate C.E., Age 45, 23 years experience designing steel, concrete and timber structures, together with any type of foundation. Thoroughly competent to execute complete structural designs on any type building or waterfront structure, and supervise the execution of working drawings. Correspondence invited for position of responsibility. PW-7208, Engineering News-Record.

PURCHASING AGENT or Material man, 30 years field experience in power house-bridge-river and harbor construction. States. PW-8606, Engineering News-Record.

PROJECT MANAGER or General Superintendent over 20 years experience on heavy construction, industrial plants, power plants, filter plants, bridge substructures, foundations—capable of organizing and coordinating entire project. Available May 15th, minimum salary $8,000 per annum. Location south or southwest—permanent connection with reliable contractor only considered. PW-8680, Engineering News-Record.

STRUCTURAL DESIGNER-Draftsman-Inspector-Estimator, 15 years experience, now employed, desires position abroad. Preferably North or South Africa. Speaks French and modern Greek. PW-8682, Engineering News-Record.

CONSTRUCTION SUPT.—Water Purification or Sewage Disposal. Thoroughly experienced. Also competent estimator. PW-8676, Engineering News-Record.

SQUAD LEADER—Structural Civil, Registered, 9 yrs. industrial experience. Age 34. All locations considered. PW-8675, Engineering News-Record.

MASTER MECHANIC, service manager or shop foreman, age 42, experienced supervisor in the operation, repair and maintenance of heavy equipment, all phases of shop management, parts, etc., free to travel and can furnish the best of references. PW-8698, Engineering News-Record.

EXPERIENCED ESTIMATOR. Construction Engineer, well grounded in costs. 22 years with prominent general contracting firms, as chief engineer and business manager. Experience includes bidding and negotiating contracts, organizing and managing construction projects. PW-8692, Engineering News-Record.

(Continued on page 74)

SEARCHLIGHT SECTION

FOR SALE AT

PUBLIC AUCTION

TUESDAY, MAY 10, 1949

By Order of the United States District Court for the Northern District of Illinois, Eastern Division.

- COAL MINING MACHINERY & EQP'T.
- LAND AND IMPROVEMENTS
- LEASEHOLDS & GOOD WILL

of the

Indian Head Mining Corporation Bankrupt

HORTON, KENTUCKY

TO BE SOLD TO THE HIGHEST BIDDER OR BIDDERS FOR CASH!

LAND & IMPROVEMENTS: 67 Acre tract adjoining the Illinois Central R.R. at Horton (Ohio County) Kentucky, improved with an 85 foot modern all steel, welded construction, fully equipped coal tipple and 2 track loading arrangement for approximately 34 coal cars: Partially built concrete block mine office, parts warehouse and wash room building; Powder storage magazines; All steel quonsett shop bldg., etc.

MACHINERY & EQUIPMENT: Manitowoc "Speedway" Dragline with 120' boom; Lorraine Caterpillar Tread Loading Shovel; 2 Allis-Chalmers HD-19 tractors with cable operated bulldozers; International TD-18 tractor with Hydraulic Dozer; Electric Generators; Ingersoll-Rand 105 cu. ft. compressor; 135 H.P. Murphy Diesel Power Plant; Tandem Sheep-Foot Rollers; and many other items. Also a large inventory of replacement parts, small tools, electrical supplies, structural steel and steel shafting, implements, fittings, etc.

AUTO TRUCKS: 1948 GMC 1½ ton & ¾ ton flat bed trucks; 1947 Federal 2½ ton flat bed; 1947 Fords 1½ Ton Flat bed, ¾ ton pick-up & club-coupe; 1948 Ford pick-up; 1948 Willys Jeep; 1942 White 10 ton with winch & stiff leg.

LEASEHOLDS & GOOD WILL: We will also offer for sale the Trustee's right, title and interest in and to leaseholds for approximately 5,000 acres in the immediate area of operations, list of customers, etc.

For Illustrated Descriptive Circular WRITE—WIRE—PHONE

SAMUEL L. WINTERNITZ & CO.

Auctioneers • Liquidators • Appraisers

FIRST NATIONAL BANK BLDG. CHICAGO 3, ILL.

INDIANAPOLIS - DETROIT

POSITIONS WANTED
(Continued from page 73)

CONCRETE SUPERINTENDENT, 28 years in concrete field. Aggregate, batch and crushing plants. Producing 200 to 900 yds. daily. Thoroughly experienced in all phases of concrete. Foreign position preferred. PW-8694, Engineering News-Record.

PROJECT MANAGER or General Superintendent—with 25 years broad managerial experience. Design-construction supervision; in heavy construction, industrial buildings, government projects now available. PW-8707, Engineering News-Record.

C. E. STRUCTURE Reinf. concrete and steel. German Graduate, longtime British overseas experience, 9 months U.S.A. experience, east and middle east preferred, moderate salary. PW-8719, Engineering News-Record.

ESTIMATOR STRUCTURAL Ornamental Miscellaneous Iron work. Highly experienced best of references desires responsible position with first class shop. PW-8733, Engineering News-Record.

SELLING OPPORTUNITY WANTED

SALES MANAGER—Engineer. Many years experience, successful record Building industry. Will represent manufacturer or Engineering service East Coast with New York headquarters. Can take complete charge. RA-8680, Engineering News-Record.

WORK WANTED

PLUMBING SUPT. and two first class pipe fitters with years of actual experience on all types of heavy construction, such as refineries, power houses, filtration plants, housing projects, sewer and water services are now available for foreign service anywhere in South or Central America. WW-8576, Engineering News-Record.

STRUCTURAL STEEL DETAILING
Done at Reasonable Prices

Our drawings are neat and accurate. Samples may be had on request. We have had varied experience on power plants, mill and office buildings, schools and many other types of structures.

ARCHINEERS, INC.
20 E. Jackson Blvd. Chicago 4, Ill.

WANTED

Cable operated bulldozer or angledozer for Intl. TD-18 Wide Gauge Tractor. PCU not required.

W-8699, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

WANTED

45 ton diesel-elec. locamotive
Northwest Model 4 or 104 crane
10 ton But-Springfield 3 wh. Roller
Barber-Greene or Maiss Bucket Loader
Barber-Greene Finisher

J. T. WALSH
Brisbane Bldg. Buffalo, New York

WANTED

FAIRBANKS-MORSE

Ten Cylinder 8½ x 10 O. P. Diesel Engine, Model 38D.

P. O. Box #2057 Ventnor, N. J.

BATCH PLANT
WANTED

150 ton or larger, 4 compartment plus cement storage, one yard or larger weigh batcher, and elevators for permanent installation.

MARTIN FIREPROOFING CORP.
2100 Military Road Buffalo 17, N. Y.

150,000 GENUINE BURLAP SAND BAGS

With Tie string at top.

Suitable for sand bagging, barricading, bulkheading, flood control, fire control and shipping, etc.

ACORN BAG AND BURLAP CO.
915 No. Delaware Ave. Philadelphia 23, Pa.
Phone: WAlnut 2-7070

WANTED:
½ yd. Backhoe for 515 Unit Shovel
¾ yd. Backhoe for Hanson Model 65
Low Bed Trailer 20 to 40 Ton
FOR SALE:
1 Fruehauf Pole Trailer (Telescope 20 to 40 ft)
Air Brakes
2 30 ft Trailer chassis, air, 12:00 Tire, 25 Ton, Unused
1 Cletrac Tractor, gas, Wis. Motor, 12 Volt Starter
W-8813, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

WANTED
BACKHOE FRONT
for
BUCKEYE MODEL 70, ¾ yd.

Send complete information including price and condition to:

CONSTRUCTION SERVICE COMPANY
P. O. Box 311 Bound Brook, N. J.

Wanted

ADNUN PAVER

One late model Adnun paver in perfect condition

W-8677, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

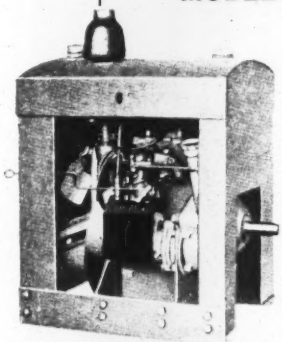
WE MADE A MISTAKE - - -
WE BOUGHT TOO MANY

LE ROI ENGINES . . .

These engines are brand new . . . never used . .
NOT WAR SURPLUS

NOW WE OFFER THEM
at Sacrifice Prices . . .

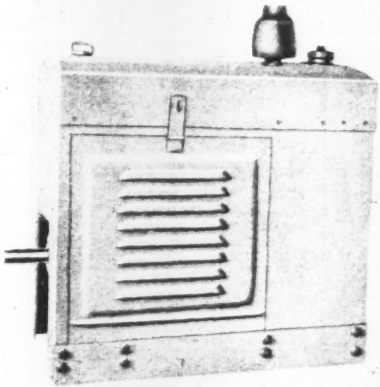
MODEL VP-5 • 2 CYLINDER • 8 HP • 1200 R.P.M.



Specifications:

Engine only, 2 cylinder 2⅞" x 3½"
Gasoline Carburetor
Air Maze Oil Bath
Magneto
Fan
Radiator
Metal Housing
Gasoline Tank
Muffler
No. 5 Power Takeoff—Stub Shaft
Weight 385 lbs.

$185.00
IN LOTS OF 10
$195.00 for single units
•
24 units in stock



MODEL D-91 • 15 HP •
4 CYL. • 1200 R.P.M.

Specifications:

Engine only, 4 cylinder 2⅞" x 3½"
Gasoline Carburetor
Air Maze Oil Bath
Magneto
Fan
Radiator
Metal Housing
Gasoline Tank
Muffler
No. 5 Power Takeoff—Stub Shaft
Weight 480 lbs.

$240.00 each
IN LOTS OF 10
$250.00 for single unit
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56 units in stock

Seeley 3-0303

THOMAS HOIST CO.

20 South Hoyne Avenue **Chicago 12, Illinois**

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Immediate delivery
From our own warehouse
new and used

Wide Flange Beams

15 pcs.	8" BPS Beams	36	60'
30 pcs.	10" BPS Beams	42	60-65'
75 pcs.	10" BPS Beams	49	40'
18 pcs.	10" BPS Beams	54	46-48
35 pcs.	12" WF Beams	36	19'10"
20 pcs.	12" BPS Beams	53	46-48'
21 pcs.	12" BPS Beams	65	36'
10 pcs.	12" BPS Beams	65	50'
24 pcs.	21" WF Beams	112	40'
22 pcs.	24" WF Beams	100	30-67'
7 pcs.	30" WF Beams	116	35'
25 pcs.	36" WF Beams	300	40'

ANGLES—2 x 2 x 1/4 to 8 x 8 x 1
PLATE—3/16" to 1 1/2" thick
CHANNELS—4" to 15"
SHIP CHANNELS—6" to 12"

We cater particularly to engineer's and contractor's structural steel needs. We carry a complete line of new structural steel shapes, such as standard and wide flange beams, angles, channels and plate. We suggest that you contact us immediately for any material you may need.

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Warehouse
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AStoria 8-8023—8096
Main Office
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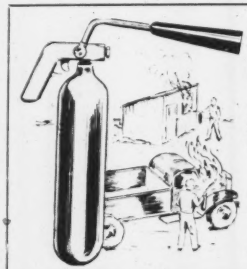
CYpress 9-5440-1

FOR SALE AT A RIGHT PRICE:

1—Sterling Diesel Tandem Tractor with a new H.B. 600 Cummings Motor. Tractor completely rebuilt two months ago by Sterling Motors.
1—90 Ton Rogers "I" Beam Trailer.
1—Rogers Low-boy with 80 Ton Drop Deck. 750x18 Tires.
WANTED:
1—Model 32 Hanson Shovel Front.

Write **T. J. KILMAIN SALES CO.**
NORTH MT. VERNON AVE. UNIONTOWN, PENNA.
or call Uniontown 5400



DON'T BE SORRY TOO LATE!!
BRAND NEW U. S. A. PRESSURE TYPE
CO_2 FIRE EXTINGUISHER
APPROVED BY U. S. GOVERNMENT

Protect your motorized equipment, tool sheds, work camps, and even your own home and garage. Kills flash fires instantly. Tank is 14" x 3 1/4" can be used more than once. Charged—refillable, good until used, weighs 12 pounds.

REGULAR $21.50 VALUE **$9.75**
2 for $19.00
6 for $55.00
Shipped F.O.B. Phila.

Will Ship Rated Firms Open Account. Others Send Check.

J. JACOB SHANNON & CO.
214 N. 22nd St., Phila. 3, Pa.
THE OLDEST EQUIP. HOUSE IN PHILA.

RAIL
STEEL PLATE
STRUCTURALS, PIPE,
TUBING, WIRE ROPE,
FERROUS AND NON-FERROUS SCRAP
BOUGHT-SOLD LIQUIDATED
DULIEN STEEL PRODUCTS. Inc.
of Washington
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FOR SALE

2 D-8's 8R & 1H series w/dozers
2 D-7's, 4T & 7M series w/dozers
1 D-4, 2T series w/dozer
1 Caterpillar model #12 Grader
Truck Crane, Quickway mod. E
2 Diesel Rollers, Gallon & Huber 10 ton
Machinery Trailer, 30 ton
3 International T-9 Swing Cranes
Tractor, TD-14 w/Hughes-Keenan Crane
Asphalt Distributor, 800 gal.
Cement Mixer, 2 bag, on rubber tires
2 TD-18's, 1 TD14 w/blades
Also other items.
All very clean, some new
For details and pictures:
Write Box 114 Miami Springs, Fla.
Phone Miami, 78-0243

FOR SALE

Caterpillar D-8 Tractors, w Dozers—8R Series
Caterpillar D-8 Tractors, w Dozers—1H Series
Caterpillar D-7 Tractors, w Dozers—7M Series
Caterpillar D-7 Tractor, w Dozer—5T Series
Caterpillar D-4 Tractor, w Traxcavator
Lorain 75-D Dragline—1 1/2-Cu. Yd.
Lorain 75-B Dragline—1 1/4-Cu. Yd.
Lorain 75-A Dragline—1 1/4-Cu. Yd.
Northwest 104 Crane—1-Cu. Yd.
Lima 101 Crane—1-Cu. Yd.
Owner's offering—not dealers listing

Heckett Engineering, Inc.
120 West Pearl St. Butler, Penna.
Phone: 3775

RAILS-TIES
TRACK ACCESSORIES

BRIDGE FOR SALE
80 ft. Pratt Truss Type
ACORN IRON & SUPPLY CO.
915 No. Delaware Ave., Philadelphia 23, Pa.
Phone: WAlnut 2-7070

RAILS-ANGLE BARS TIE PLATES

Write for Regular Bulletins of
CURRENT LISTINGS
Complete Range of Sizes
Always Available
RAIL DIVISION
COMMERCIAL METALS *Company*
LATIMER AT CORINTH, P.O. BOX 1046, DALLAS

FOR SALE
Single Drum Lidgerwood Hoist
Buda 60 h.p. Engine, Capacity 3500 lbs., 400 FPM, completely overhauled, and in first class condition—$700.00 f.o.b. Buffalo, N. Y.
MARTIN FIREPROOFING CORP.
2100 Military Road, Buffalo 17, N. Y.

FOR SALE
1 D-8 with D.D.P.C.U. only . . $6,500.00
Serial 1 H 2502
1 D-7 with D.D.P.C.U. only . . $5,500.00
Serial 7 M 3293
GOOD CONDITION — READY TO WORK
THE GRANDVIEW CONSTRUCTION CORP.
740 South Fulton Ave., Mount Vernon, N. Y.

New and Relaying
RAILS and ACCESSORIES
Motor Gang and Maintenance Cars
ACORN IRON AND SUPPLY CO.
915 No. Delaware Ave. Philadelphia 23, Pa.
Phone: WAlnut 2-7070

GOOD REBUILTS—

105 I-R on 2 Pneumatic Tires
160 I-R on Chevrolet Truck
315 I-R on 4 Pneumatic Tires

METALWELD, Inc.
2600 Hunting Park Ave., Philadelphia, Pa.

FOR SALE
One Allis-Chalmers model HD 10 W tractor, equipped with Baker model 338A gradebuilder.
Used about six months.
ADDRESS BOX 8 NORTHSIDE STATION
ATLANTA, GA.

New Shovel Parts
50% Off
For Following Makes:

P & H Models 655A, 255A, 150, 855A
Bucyrus Erie Models 44-B, 54-B
Link Belt Model L. S. 90
Northwest Model 25
Fairleads—various makes

Howe Bros.
Box 244 Troy, N. Y.

FOR SALE
LINK BELT CRANE
1½ yd. (diesel)
65' boom clamshell digging bucket and fairleads. Wide cats. Completely overhauled.
NEDCAR EXCAVATING CO.
15 William St., Suite 1514, N. Y. 5, N. Y.
Hanover 2-9194

FOR SALE
(Subject to Prior Sale)
TRUCK CRANE
1—Model 255A, P&H 15-ton crane, 60 ft. boom, Mack truck
CALLAN CONSTRUCTION CORPORATION
Bristol, Rhode Island Phone: Bristol 124

Used Steel Sheet Piling for sale by owner. Clean, in singles with all buttered ends trimmed and new handling holes.

133 pcs. M-116, 33 ft.
80 " AP-3, 30 ft.
124 " M-115, 30 ft.
93 " I-22, 19-5/8"x36, 30 ft.
4 Fab. corner pcs. 22 ft.
12 " Tees, 22 ft.

B. B. McCormick & Sons, Inc.
Jacksonville Beach Florida

STEEL BAR JOIST
In Stock for Immediate Shipment

550 Pcs. 8" # 82—16'-8"
200 Pcs. 8" # 82—24'-0"
350 Pcs. 10" #102—18'-8"
200 Pcs. 10" #103—20'-8"
150 Pcs. 16" #167—24'-0"

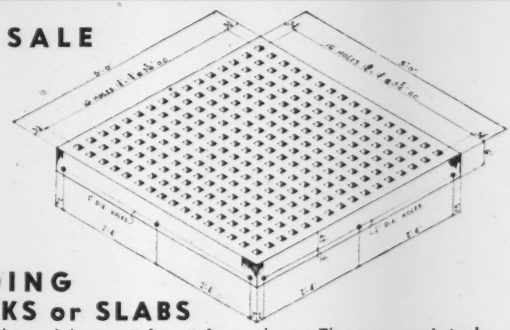
Also all sizes structural steel in stock.

ACORN IRON & SUPPLY
915 No. Delaware Ave. Philadelphia 23, Pa.
Phone: WAlnut 2-7070

FOR SALE—*NEW*
Chain Crowd Shovel Attachment
Including 30' Boom, 25' Stick, 1½ Yd. Pettibone Mulliken Dipper Retract Unit, Split Crowd Sprocket 26" Drum Shell Dipper Trip Chains and Cables 19T Engine Pinion.
LUXNER COAL COMPANY
Carmichaels, Pa. Phone Carmichaels 3751

FOR SALE
One front end shovel attachment for Insley model KL ⅜ yard machine. One front end shovel attachment for Lima ¾ yard Paymaster.
These attachments have never dug even 1 yd. of earth.
ADDRESS BOX 8 NORTHSIDE STATION
ATLANTA, GA.

FOR SALE



BENDING BLOCKS or SLABS
These blocks or slabs are 5 ft. x 5 ft. as shown. They are semi-steel, in good condition, having only been slightly used on a war-time contract in a shipyard. They are very useful for many purposes, such as for bending table, for layout & assembly work, etc. We also have stands for single blocks, and multiple stands to carry 2, 4, or 8 blocks. We can sell the blocks with or without the stands.
Orders accepted for single blocks or large quantities, as desired.
Write, Phone or Wire at Once!
ACORN IRON & SUPPLY CO. 915 No. Delaware Ave. Philadelphia 23, Pa.
Phone: WAlnut 2-7070

FOR SALE
1—Euclid Loader Model BV5, Serial 5BV34 New May 1947—used on one job, 400000 cy. Price—$13,000
7—Terra Cobra Scrapers, 150-HP Cummins engines. These machines new 1946-1947. Less than one year work. Latest Improvements including cabs, 12-c.f. air compressors and 24-V generators, drive chains enclosed. All have been overhauled and appearance like new. Will sell in lot or separately.
Price $16,000 each
All above subject to prior sale and F.O.B. St. Paul, Minn.
Terms can be arranged
Address
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Complete with rope grips.

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Lorain 82 Dragline Crane—2-Cu. Yd.
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FS-8423, Engineering News-Record
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FS-7325, Engineering News-Record
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International TD-18 hydraulic and cable bulldozers. Built 1948. Practically new
International TD14 and TD9 hydr bulldozers, Built 1947
Caterpillar D-4 hydr. bulldozer w/Hyster winch
ALL CAREFULLY SHOP-REBUILT
NEW PAGE and HENDRIX dragline buckets—1 cy & 1½ cy Cap. under list prices.
Northwest Shovel Front.

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LIMA Model 1201 DRAGLINE

90' Boom—3 Buckets
Model L Cummins Diesel Engine
All In Excellent Condition
Used Less Than 2,000 Hours
Located at Stigler, Oklahoma

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BUCKEYE MODEL 12
Cat. D4400 E-gines
10 @ $7500.00 ea. fob S.F.

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SHEET PILING
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PUMPS
Vacuum units
Wellpoint dewatering systems
Since 1922

WM. W. LEE & SON
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One-half Cu. Yd. Model 15-B
Bucyrus-Erie Shovel Backhoe

35 ft. Crane Boom Fairleads and one-half cu. yd. Dragline bucket. All in perfect mechanical condition.

R. F. Carpenter, *General Contractor*
ALBURG, VERMONT

FOR SALE

We have 1—3 Wheel 10-Ton Huber Roller, 1 Gallon Motor Grader and 1—1000 Gallon Steel Tank. The Roller we will sell for $580.00; Grader $825.00 and Tank $150.00.

WANTED
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One Northwest 25 Shovel

backhoe and crane. Northwest 25 backhoe attachment only. Jahn full trailer, low-bed, 22 ton, Sterling truck, 1941, model 96 MC. All in excellent condition, subject to prior sale.

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FOR SALE—BARGAIN
TWIN CITY GASOLINE ENGINE

4 Cylinder 8 x 9 130 H.P. at 605 R.P.M.
Complete and in Excellent Condition
Available Now Because of Change to Diesel

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Bishop 7-7575

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One practically new Koehring yard and one half, model 605 with 65 ft. boom, drag line attachment and bucket for list price less discount.
This machine only used three days as back hoe to date as dragline.

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Link Belt Crawler Crane—Model K 55—No. 1698, 22 Ton or 20 ft. radius 70' boom—Fairleads, High Gantry, Wide Cats. Recently overhauled with new Buda Model 6DC-814 six cylinder Diesel Engine installed. Subject to inspection and prior sale.

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10" Road Forms, 34 E Paver, Finisher, etc. Complete road outfit except bins.

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Cleveland Baby Digger, Model 95, with trailer on Pneumatic tires. Serial #2395. Inquire

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find equipment you need

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ENGINEERING NEWS-RECORD

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2—Northwest Model 25 crawler pullshovel crane combination, diesel engine.
2—Northwest Model 25 crawler cranes, gas engine.
1—Northwest Model 25 diesel truck crane, 60' boom.
1—Bucyrus Erie 38-B 1½ cu. yd. crawler shovel, General Motors diesel engine.
1—Marion Model 371 crawler crane/drag combination—gas engine.
1—Manitowoc Model 2000 crawler crane/drag combination—diesel engine.
1—Lima Paymaster crawler pullshovel crane combination—gas engine.
1—Lorain 1¾ yd. crawler diesel shovel.
1—Lorain Model 40 Truck Crane, 35' boom mounted on 10 wheel Mack.
1—P & H ½ cu. yd. crawler pullshovel—gas engine.
1—Koehring Model 205 cruiser crane.

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FOR
Tractors, Graders, Scrapers, Shovels, Cranes, Trench Diggers, etc.

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Cutting Edges All Sizes—Fairleads

CEMENT MIXERS
2 Ransome and 1 Rex
Excellent Condition

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2—Jaeger-Lakewood Model H Cement Finishers—$5,000.00 Each.
5—Model 34E Rex Dual Drum Pavers—$17,500.00 Each.
2—Jaeger Concrete Spreaders—$6,500.00 Each.
This equipment all new, 1942, in excellent condition. Prices F.O.B. Boise, Idaho

WESTERN EQUIPMENT COMPANY
P.O. BOX 1456 BOISE, IDAHO

FOR SALE

Two—C. H. & E. Mortar Mixers, rubber tires, used only three months.
One—A C HD 14 Tractor, Baker Blade.
One—LeTourneau Turnapull, Super "C", 8 yard scraper, only 250 hours.
One—One bag concrete mixer, skip, rubber tires.
All in good working condition, will sacrifice, want offer.
Can be seen at Red Bank, N. J.

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Builders & Developers
54 BROAD STREET
RED BANK, NEW JERSEY
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1 Hanson Yard & Dock Crane, 5 ton, 18' boom, swings 270°.
5 Purox E Torches with regulators.
450 ft. ¼" twin hose, 1 ps.
18 1¾" x 36" double pelican steamboat ratchets.
400 ft. 1/0 welding cable.
2 25 ft. booms, 1 20 ft. boom.
12 8" & 10" snatch blocks.
Chokers, tongs, sledge, rope, etc.
All above new October 1, 1948.
1 1945 V plate Dodge dump truck in excellent condition.
Sacrifice lot $6750. Cost $13,000.

AUBURN & ASSOCIATES, INC.,
923 Penn Ave., Pittsburgh 22, Pa.

Cast Iron B & S PIPE and FITTINGS
STEEL PIPE and VALVES
ACORN IRON AND SUPPLY CO.
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FOR SALE
One D-6 modified tractor equipped with Hough front end shovel and backfiller blade.
This machine has been used only two days.
ADDRESS BOX 8, NORTHSIDE STATION
ATLANTA, GA.

BARGE CRANE
FOR SALE
Industrial Brownhoist, 50-ton capacity steam revolving crane, 75' boom, wide gauge, 150 lb. 60" boiler, oil burner, bucket chains, at 110 tons; good condition, dismantled, Lake Erie, Ohio.

H. Y. SMITH CO.
828 N. Broadway Milwaukee 2, Wis.

New "SEARCHLIGHT" Advertisements
received by April 26th will appear in May 5th issue, subject to space limitations.

Classified Advertising Division
ENGINEERING NEWS-RECORD
330 W. 42nd St., New York 18, N. Y.

CONSTRUCTION BUSINESS

Cost indexes continue slight downward trend

Construction and building cost indexes are steady—or declining gradually—at the close of the first quarter of 1949.

Both weighted and contractor indexes have responded to scattered price declines and increased labor efficiency in recent months. (Contractor indexes measure construction "selling costs," whereas weighted indexes are based purely on material and labor cost fluctuations.)

For example, the ENGINEERING NEWS-RECORD Construction Cost Index has dropped 1.4 percent from its high of 480 in October 1948. The ENR Building Cost Index is down 1.6 percent, from 357 to 351. The E. C. Boeckh Index for brick-concrete commercial and factory buildings remained unchanged in February for the third straight month. It dropped one point, to 368, in December.

First-quarter declines are shown by three contractor indexes: Aberthaw, Turner, and Fruin-Colnon. The Aberthaw Index, covering New England only, dropped 2.5 percent to 319 over the period from September 1948 to March 1949. Turner Construction Company's Index, based on actual building cost experience in eastern cities, fell slightly less than 1 percent in the six months from September to February. It is now back to its July 1948 level of 427, after a peak in September of 430.

The March Fruin-Colnon Index is down 2.3 percent from a three month peak of 391 at the end of 1948. Now it is 382. This index is derived by the repricing of five industrial plants in St. Louis, on the basis of contractors' actual and estimated costs.

Austin Company's index is the only available contractor index to remain unchanged through March. First quarter advances in wages and freight rates offset savings from increased efficiency and tighter scheduling of construction work, according to that company. Their industrial building cost index, covering central and eastern states, is still at its October 1948 level of 322.

RECENT PRICE CUTS

Item	% Decrease in 1949
Materials	
Lumber (from Feb. '48)	12
Structural steel (warehouse):	
New York City	10
Cincinnati	4
Galv. sheet	1
Galv. pipe	3½
Steel conduit Fittings & couplings	10
Thermopane (at factory)	5
Corkboard	10–15
Asphalt tile	8–18
Steel outlet boxes	3–10
Armored cable	10
Copper wire	5–14
Metals	
Lead	30
Iron scrap (No. 1 Hvy. N. Y.)	28–30
Copper scrap (No. 1 wire)	5
Zinc	9
Equipment	
Heating and ventilating:	
warm air furnaces	20
sectional boilers	12
residential boilers	5
Refrigerators, freezers, ranges	4–10

Production notes . . .

Steel, lumber and plate glass production reports in early 1949, indicate a good supply for spring construction purposes.

A history-making high in raw-steel output for the first quarter has just been announced by The American Iron and Steel Institute. Production was 2 million tons greater than in first quarter 1948. Furnaces were operated at over 100 percent of their theoretical capacity for the entire three months—the first such instance on record.

Lumber production averages 94 percent of 1948 in the first 13 weeks of this year, despite severe price declines. Both northern pine and hemlock, and oak flooring are running ahead of last year, according to the NLMA.

Plate glass output by the Pittsburgh Plate Glass Co. has been at capacity in the first two months of 1949. Window glass production was cut 25 percent to meet a 50 percent dip in demand, but the backlog of orders was enough to maintain total glass production at the maximum.

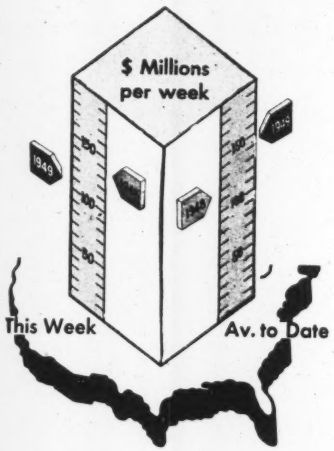
Halt refinery building as labor costs rise

Construction of a Kansas City petroleum refinery for the Phillips Petroleum Co. has been halted after owners refused wage increases on new contract with AFL building trades unions.

Pay boosts of between 10 and 25 cents an hour are called for in an agreement negotiated by the builders association and Kansas City unions.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Apl.'49	473.54	227.63
Building Cost	Apl.'49	351.35	189.93
Volume	Mar.'49	271	119



Activity This Week

As reported to ENR (in millions of dollars)

Amount of Contracts let

	Week of Apl. 21 1949	Cumulative 1949 (16 wks.)	1948 (17 wks.)	% chge av.wk.
Federal	$51.8	$347.3	$356.5	−3
State & Mun.	51.1	806.2	184.4	+25
Total Public	$56.9	$1,153.5	$1,040.9	+18
Total Private	50.4	1,162.7	977.7	+26
U. S. Total	$107.3	$2,316.2	$2,018.6	+22

Contracts by type of work

	This Week	Cumulative 1949 (16 wks.)	1948 (17 wks.)	% chge av.wk.
Waterworks	$2.6	$43.4	$53.5	−14
Sewerage	6.8	69.0	65.2	+13
Bridges	3.5	106.2	90.8	+24
Highways	14.0	167.8	259.3	−31
Earthwork, Waterways	3.7	179.5	165.5	+15
Buildings, Public	25.0	511.9	337.9	+61
Industrial	12.4	327.7	315.1	+11
Commercial	26.2	732.2	582.9	+33
Unclassified	13.0	178.5	148.4	+27

NOTE: Minimum size projects included are: Waterworks and waterway projects, $28,000; other public works, $50,000; industrial buildings, $68,000; other buildings, $250,000.

New capital for construction

	Cumulative 1949 (16 wks.)	1948 (17 wks.)	% chge av.wk.
NON-FEDERAL	$1,572.9	$1,120.1	+49
Corporate Securities	779.4	623.1	+33
State and Municipal	793.5	497.0	+70
Total Capital	$1,572.9	$1,120.1	+49

Raymond

Pattern FOR Permanence

RAYMOND CONCRETE PILE CO.

Branch Offices in Principal Cities
Of United States and Latin America

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52 YEARS FOUNDED 1897 OF PROGRESS

JOBS that call for a permanent pile foundation call for Raymond equipment, Raymond experience and Raymond skill. From preliminary soil investigation to completed foundation, you can be sure that the Raymond organization will work swiftly, accurately and at minimum cost.

Raymond cast-in-place concrete piles cannot be excelled for permanence and carrying capacity. Many types are available to meet any subsoil condition. With Raymond on the job, full compliance with job requirements is assured.

Pictured above is Raymond's 1300-pile foundation for the new Caterpillar Tractor Company Building 11 at Peoria, Ill.

THE SCOPE OF RAYMOND'S ACTIVITIES includes every recognized type of foundation construction—concrete, composite, precast, steel, pipe and wood piles. Also caissons, underpinning, construction involving shore protection, shipbuilding facilities, harbor and river improvements and borings for soil investigation.

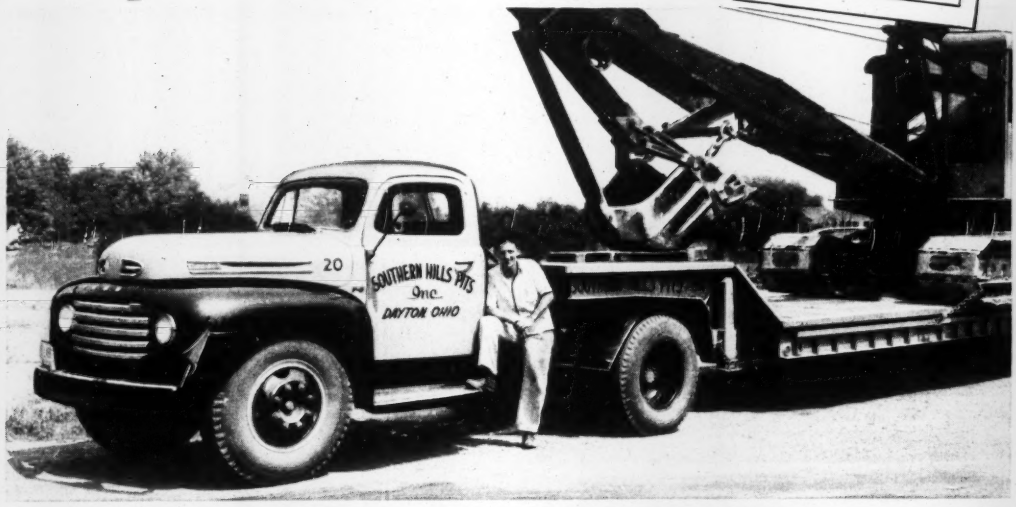
"Our FORD F-8 pulled a 25-ton shovel up 4th St. Hill!"

Roadside Report

FORD TRUCKS

W. A. WADSWORTH

DAYTON, OHIO



"RECENTLY we had occasion to place our 25-ton shovel at the top of East 4th Street Hill in Dayton," reports W. A. Wadsworth, General Manager of Southern Hills Pit, Inc. "We did this with our Ford F-8 Big Job without the assistance of a second truck and had a comfortable reserve of power. To our knowledge, no other make of truck has pulled the hill our F-8 did, with a similar load."

Owners and drivers sing the praises of the new Ford Big Jobs. *Owners* like Big Job extra power and low cost operation. They claim the new 145-horsepower engine outsaves engines much smaller in size. *Drivers* are enthusiastic about the ease and comfort of the Million Dollar Cab and its Ford Level Action suspension. *Both* are impressed by Ford Bonus Built construction, characteristic of 139-plus models in a full truck line. Bonus Built is the superstrong construction that contributes to long truck life.

ONLY THE FORD BIG JOB HAS ALL THESE FEATURES!

- ★ New 145-h.p. Ford V-8 engine for top performance.
- ★ Ford exclusive concentric dual-throat carburetor for more power, more economy.
- ★ New heavy duty 5-speed transmissions for operating flexibility.
- ★ Big Ford power-operated brakes for sure-footed stopping; rear 16-inch by 5-inch on the F-8.
- ★ Ford Super Quadrax 2-speed axle with vacuum shift for performance flexibility in Model F-8 (single speed axle also available); single-speed Quadrax Hypoid Axle in Model F-7.
- ★ Large diameter (10-inch) wheel bolt circle with 8 studs to allow for extra-strong hub construction.
- ★ Million Dollar Cab with Ford Level Action suspension for greater driving comfort.
- ★ Nationwide service from over 6,400 Ford Dealers.
- ★ Ford Bonus Built construction for long truck life.

Gross Vehicle Weight Ratings: F-8 up to 21,500 lbs., F-7 up to 19,000 lbs. Gross combination ratings: F-8 up to 39,000 lbs., F-7 up to 35,000 lbs.

FORD 1949 *Bonus Built* TRUCKS 1959

BUILT STRONGER TO LAST LONGER

USING REGISTRATION DATA ON 5,444,000 TRUCKS, LIFE INSURANCE EXPERTS PROVE FORD TRUCKS LAST LONGER!